NOVEMBER, MDCCCLVI.

THE ZOOLOGIST:

A
POPULAR MONTHLY MAGAZINE
OF
NATURAL HISTORY
AND
JOURNAL FOR RECORDING FACTS & ANECDOTES
RELATING TO
QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.
THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CLXIX.

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E. NEWMAN, 9, DEVONSHIRE STREET.

TO CORRESPONDENTS.

Because Mr. Stainton has directed that contributions to 'The Substitute' are t sent to me, my friends generally have done me the honour of addressing me as Editor of 'The Substitute.' This is not so: I am merely employed as Printer Publisher. It is quite usual to request contributors, as Mr. Stainton has done, forward their communications to the publisher.

Now that the 'Intelligencer' has hybernated, and its 'Substitute' takes a diffe line of operations, I hope every Entomologist will send his announcements of captur the 'Zoologist.' I also shall highly prize those occasional scraps of information a the economy of insects which found their way into the 'Intelligencer.' I am not anx to receive those lists of duplicates and desiderata, for the publication of which ' Substitute' is more especially intended.

Prepaid Subscribers to the 'Zoologist' and 'Substitute' will observe that monthly cost of the two works is now exactly the same—*i.e.* One Shilling per Mont

Several unfortunate errors occur in the October number of the 'Zoologist:' they be carefully corrected in the body of the work next month—not on the wrapper.

EDWARD NEWMA

To Ornithologists.

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London: LONGMAN, BROWN, GREEN, LONGMANS & ROBERTS.

'The Phytologist.'

A CONCLUDING NUMBER of the First Series of this Period will be published before the end of the year: it will contain an INDEX, &c., t Volume which is now incomplete: it will also contain a "First Sketch of a Na Arrangement of Ferns, by EDWARD NEWMAN."

The 'Zoologist' Abroad.—"The editor of this zoological journal, E. Newman, contributes materially by its publication to the diffusion and advancement of Zoology among the English: this seems, indeed, to be much easier there than in Germany, since the spirit of nationality, which is so strong in England, promotes every patriotic effort; while in Germany the contrary is the case, with few exceptions. In England every collector, taking pleasure in communicating to others what he has found, there is none unwilling to consign to such a central organ as the journal above named what he has observed and what has occurred to him scientifically interesting. In Germany, on the other hand, we find such a reserve that the residents in the same spot are unaware, each of them, what his neighbour has observed and discovered; above all, it is with the greatest difficulty that even scientific men are persuaded to *write* a few lines on such matters, seeming to have an insuperable horror of seeing their names in print: if one in a hundred does take this step, each of these again has his own particular channel of publication, and all so unconnected that one knows nothing of the other. Till the unity of Germany in Science is practically understood, we shall have no right to speak of German Science, or to hope for a German Fauna, an object now immeasurably remote. Among the numerous essays in all branches of Zoology which this journal contains, we have been particularly pleased with the treatment of the 'Entomological Botany' in the late numbers, giving the plants with their inhabitants and visitors of all classes of insects, among which the Micro-Lepidoptera play the most conspicuous part. For twelve years past the numbers of this journal have appeared monthly with unfailing punctuality, and thus all possible individual and commercial notices, in any way connected with Zoology, are brought to the knowledge of the numerous readers of the 'Zoologist.'"—*Extracted from the German 'Universal Natural History Journal,' under the direction of the Isis Society of Dresden, New Series, Vol.* i., 1855, *p.* 79. *Contributed by Mr. Haliday.*

Protest against Mr. Stainton's change of Names in the British Lepidoptera.—We, the undersigned, desire to express our sincere regret at the change of nomenclature adopted by Mr. Stainton in his, in many respects, useful and valuable 'Manual of Entomology,' as we think it calculated to create great confusion, and to mislead the beginner. We consider Mr. Doubleday's 'Synonymic List' as decidedly the best systematic arrangement, and the one most generally adopted by a large majority of entomologists of the present day, and we cannot but think that thus tacitly to ignore its existence is greatly to be lamented. We wish it distinctly to be understood that our only motive in requesting the insertion of this protest is to call forth an expression of public opinion from entomologists in general.

C. R. Bree; Stricklands, Stowmarket.
Joseph Greene, M.A.; Playford, Ipswich.
H. Harpur Crewe, M.A.; Breadsall, near Derby.
Herbert Bree, M.A.; Woolverstone, Ipswich.

The Name of the 'Substitute.'—Is it possible that Mr. Stainton really intends to give so incongruous a title as the 'Substitute' to the winter 'Intelligencer?' When I first saw the announcement I thought it must be a joke, and have since waited patiently for the solution, but two succeeding 'Intelligencers' having reiterated it, I begin to fear that he is serious, and cannot remain silent any longer. Now I want to ask him two questions:—1. What is it a substitute for? He will answer the 'Intelligencer.' But they are one and the same thing: the 'Substitute' is to be rather larger, but the subject matter will be exactly the same; the 'Substitute' is to contain lists of duplicates and desiderata, so did the 'Intelligencer;' the 'Substitute' is to contain notices of summer rambles, so did the 'Intelligencer.' As a substitute cannot be identically the same with that for which it is substituted, it appears clear to me that such a title will not do.—2. What has the title 'Substitute' to do with Entomology? I have always been led to suppose that the title of a book ought to have some slight connection with its contents, but how the terms Substitution and Entomology can have the most remote relation to each other, I am utterly at a loss to conceive; it cannot, therefore, be right to call a work entirely devoted to Entomology by a title which has no reference whatever to that Science. Mr. Stainton must really forgive me, but it seems to me to be mere pedantry to change the name at all: he says he has no time to edit the 'Intelligencer' during the winter, but nevertheless, with the assistance of others, he is able to bring out a periodical of a precisely similar nature, but which he proposes to call by a different name: his only apparent reason for doing so is that the winter periodical, not being entirely edited by himself, it is unworthy of the same designation as its more favoured predecessor. I have strong doubts whether such a reason will carry weight with entomologists in general. I do really hope that, between now and the 25th of October, Mr. Stainton will rack his brains, and if he must change the name, find something better than the one at present proposed. Let him call it what he likes, but pray do not let us have so silly (I cannot help saying it) and unmeaning a title as the 'Substitute.' Do let him "substitute" something else.—*H. Harpur Crewe; Shooter's Hill, Kent, September* 22, 1856.

Reply to some of Mr. Ashworth's Remarks in the '*Zoologist*,' *p.* 5252.—"Indeed it is a strange disposed time, but men may construe things after their fashion, clean from the purpose of the things themselves," and thus make 'Much Ado about Nothing'—a 'Tempest' in a tea-pot—but, as 'All's Well that Ends Well,' even in a 'Comedy of Errors,' it can scarcely be 'Love's Labour Lost,' if we give and take 'Measure for Measure.' As I have not any desire to represent all the Lancashire entomologists, particularly not the small section of them who, like Mr. Ashworth, refuse to give any information, I take this opportunity to say so; neither have I overlooked "one or two considerations," but Mr. Ashworth does not seem to know that a generation ago Lancashire could boast of entomologists *great in their day*. Has he never heard of Hobson, Donbevand, Crozier, Townley, Tinker, &c. &c., who searched the moors and mosses before he was born, and to whom some of the present Lancashire entomologists are deeply indebted for directing their steps in "the way they should go?" My observations were never intended to "brag" over any one. We were solicited to give our information; and it so chanced that because we had more to tell than was expected from countrymen we were called "braggarts." If Mr. Ashworth will read the early part of my remarks again, he will then see what he ought to have observed at first, *viz.*, that it was intended as a reply to Mr. Stainton's erroneous statements, and to show other people that their remarks were incorrect; and, admitting that we did "brag," we, like Mr. Ashworth's "cousins," did a considerable amount of work. As to Fraxini being considered British, the Lancashire men knew, from the 'Zoologist' (Zool. 1515), that there was one specimen unquestionably British, because it had got into a certain cabinet; but they also know of several other specimens, not sea-coast specimens, which will never be considered British by some people, unless they have the good luck to fall into their hands. This feeling is not confined to the small section to which Mr. Ashworth belongs in Lancashire, but exists in other counties; and the only way to get a new or supposed scarce species admitted as British is to distribute it amongst a certain clique or certain cliques, who habitually blackball everything they do not possess. I know little and care less about the Dover Daplidices, but have seen a great many specimens said to have come from that, like Dr. Leach's Pinastri drawer, seemingly inexhaustible source. I do not often dispute a gentleman's word, neither do I doubt a countryman who knows so little of the value of an insect as to be proud to get a "quart o' ale" for a "flee," especially when several folks have had a race for the said "flee;" but I do sometimes doubt Daplidices, &c., when in the hands of dealers; at the same time, I feel proud to say we have dealers in Lancashire whose word needs no stamp. I rather like Mr. Ashworth's mock modesty, and can appreciate his advice to work hard, &c., and am quite aware he thinks the world wide enough for a great many to work in, always provided they do not work near him. Instance Mr. Carter, who went, last July, to see Mr. Ashworth, thinking, as Mr. Ashworth did not consider it any honour to find new species, he would be glad to give information how to take specimens; but no.

"When the devil was ill, a saint was he;
When the devil was well, the devil a saint he'd be."

Mr. Ashworth listened with great pleasure whilst Mr. Carter informed him how and where he had taken Lamprosetia Verhuellella near Mr. Ashworth's lodgings, and how the Lancashire entomologists found Agrotis Ashworthii at Llanferras; but when Mr. Carter asked him to tell how and where he took Trochilium Scoliæforme he distinctly said he would neither tell him nor any one else, saying, when pressed for a reason, that as his collection was very small he wanted them all for himself, for exchanging with. I am sorry Mr. Ashworth was away from books, &c.; but I shall be ready to reply to him, or any one he may induce to attack me, at any time, providing he or they will bring a direct charge; but I will not notice any side-wind remarks. I perhaps did wrong when I said Scoliæforme was common; but, having seen ten specimens in one cabinet, taken last year, I naturally concluded it was "bosh." In conclusion, I will ask Mr. Ashworth to name one local insect which he has known "made common for a year or two by dealers, and which has been scarce for a long time afterwards." There are few scarce insects in Lancashire, and those few are confined to localities where the Lancashire entomologists cannot go to, though perhaps Mr. Ashworth can.—*C. S. Gregson; Stanley, near Liverpool, September* 15, 1856.

[Although I believe it to be the most impolitic thing in the world for an Editor to interfere with the literary labours of his contributors, still I feel bound to arrest this passage of arms at the present point, because I have abundance of Natural-History communications on hand; and most of my readers will prefer these to writings which, however clever, do not advance that science. Mr. Gregson's communications are always welcome when he imparts information; and I hope, now that the 'Intelligencer' has hybernated, he will favour me every month with a record of his observations.—*E. N.*]

Extraordinary Abundance of Thecla Betulæ in Montgomeryshire.—In August last I captured a great number of Thecla Betulæ, which I found excessively abundant in the valley of the Dovey, Montgomeryshire. It had apparently departed from its usual habit, since by far the greater number were captured on the tops of oak trees, in company with T. Quercus; and, strange to say, the former were by far the most abundant. I found T. Betulæ the whole way up the valley of the river Dovey. Is not this rather North for it? Having taken more than I need for my own collection, I shall be happy to supply any collectors in want of it. As I live in the South, any of our northern Lepidoptera will oblige.— *G. R. Crotch ; Stoke Court, near Taunton, October* 10, 1856.

Larva of Cerura vinula.—I am not sufficiently acquainted with the literature of Entomology to know whether the structure of the caudal filaments of the puss moth, described by Mr. Gosse in the last number of the 'Zoologist' (Zool. 5254), be generally known or not, but I remember to have seen it more than fifty years ago, and many times since: it is, in fact, so familiar to me that I was surprised to find it now described as new. A tremulous motion which I have sometimes seen in this curious organ is not mentioned by Mr. Gosse, but is remarkable. The description given by Mr. Gosse is, like all his observations, very accurate and graphic.—*Thomas Bell ; September*, 1856.

[Like Mr. Bell, I am perfectly acquainted with the facts noticed by Mr. Gosse, but I do not recollect their being previously noticed in the 'Zoologist,' and I think they cannot fail to please some of its readers.—*E. Newman.*]

Notodonta camelina double-brooded.—I have again, within the last fortnight, bred Notodonta camelina from eggs which I found upon birch the end of May, and am therefore still more confirmed in my belief that the insect is double-brooded. It appears to me that much too narrow a construction is put upon the term "double-brooded" by some of our best entomologists: I cannot admit, because only part of a spring brood of larvæ produce moths the same summer, but the remainder remain in pupæ till the following spring, that therefore the insect is only single-brooded. It seems to me that if any part of the spring brood of larvæ produce moths the same year, in time enough for the larvæ produced from them to be full-fed and spun up before the winter, that insect is most undoubtedly double-brooded. The fact of part, and perhaps the greater portion, of the brood remaining in the pupa till the following spring does not, in my opinion, make the least difference. I can conceive nothing more probable than what Mr. E. Shepherd relates of his brood of fifty N. camelina; but he must allow me to suggest that, had those dozen moths which emerged in August had the opportunity, they would doubtless have paired and laid eggs, the produce of which would have been full-fed in October or November. I really feel much indebted to Mr. Shepherd for his communication, as I consider it to be a valuable additional corroboration of my double-brooded theory. Mr. S. says that I dare not assert that N. cucullina and carmelita are double-brooded: he is quite right, as it is about the last thing which I should think of doing, and simply for this reason, that both my own experience and that of others has led me to form quite the contrary opinion. About the 9th of May, 1854, I was fortunate enough to find that a matrimonial alliance had taken place between a pair of N. cucullina and also of N. ziczac in my breeding-box, and on the 11th I had broods of eggs from both. They hatched about the same time, and the larvæ were all full-fed and had spun up by the first week in July. The first ziczac came out of the pupa on the 16th of July, and this continued till every moth had emerged. Not a single cucullina appeared till the 1st of May in the following year, about the same time as those which I have been in the habit of rearing from larva taken in the wild state in September and October usually begin to appear. At the same time that I was rearing N. cucullina Mr. S. Stevens was rearing N. carmelita also from the egg, but though he tended them with the utmost care, and his larvæ, like mine, were full-fed and had spun up considerably before the usual time, I think I am right in saying that not a single moth appeared till the following spring. We thus have N. cucullina, N. carmelita, N. camelina and N. ziczac treated in a precisely similar manner, and the very different result which occurred in the case of the two latter is to me a convincing proof that they are double-brooded, whilst the two former are as undoubtedly the contrary. It also appears to me to prove that confinement, abundant supply of food, and want of air and "exercise," have little or nothing to do with the question. I have several times bred N. dictæa and N. dromedarius in the beginning of the autumn from eggs or larvæ found the previous June or July; N. dictæoides I have not yet bred in the autumn, though I have had the larvæ full-fed in July, but the pupæ unfortunately died. I have within the last few days taken a specimen of N. camelina, and Mr. H. Cooke informs me that he has taken it several times towards the middle of August. The case seems to stand thus: the spring-laid eggs of N. dictæa, N. dromedarius, N. ziczac and N. camelina occasionally, if not always, produce moths at the end of the summer of the same year, and I have no doubt whatever in my own mind that this is a wise arrangement of Providence, by which, in case the season should be unfavourable to the maturity of the summer brood of larvæ, an autumnal brood is produced, which supplies the deficiency which would otherwise occur in the moths of the following spring.—*H. Harpur Crewe; Stricklands, Stowmarket, August* 19, 1856.

Double-broodedness of the Notodontæ.—In the last number of the 'Zoologist' (Zool. 5255) Mr. Naish "begs most distinctly to assert" that Notodonta dictæa is double-brooded, and in proof thereof tells us that the Bristol collectors look for and find the perfect insect in May and at the end of July. Mr. Naish must allow me to observe that he has yet to prove that the moths which emerge in May *are the parents of those found in July*, in order to complete his chain of evidence. He adds, "we find them (*i. e.* the perfect insects) appear at two regularly stated times, and never between those times;" such may possibly be the case at Bristol, but, in the neighbourhood of London, specimens which assume the pupa-state in the autumn frequently do not emerge till the following July, and Mr. Naish does not produce the least evidence to contradict the supposition that his July specimens are produced from pupæ of the previous year, just the same as in this part of the country.—*E. Shepherd; September* 5, 1856.

Description of two Noctuina new to Britain.—

1. *Leucania vitellina.* Abdomen testaceous-white; the fore wings pale fulvous, with two waved transverse lines, a few points, and a discoidal spot all darker; hind wings nearly white. A very distinct species, first figured in Engramel's 'Papillons d'Europe,' 506, a, b. The following references may also be useful:—Noctua vitellina, *Hübn. Samml. Eur. Schmett. Not.* pl. 81, f. 379; pl. 128, f. 589. Xanthia vitellina, *Treit. Schmett. Eur.* v. 2, 356, 9; *Suppl.* x. 88. Leucania vitellina, *Dup. Hist. Nat. Lép. Fr.* vii. 475, pl. 130, f. 5. *Boisd. Ind. Méth.* 132, 1047. *Guen. Ann. Soc. Ent. Fr.* vi. *Noct.* i. 73, 92. Noctua (Xanthia) vitellina, *Meig. Syst. Besch. Eur Schmett.* iii. 160, 144, pl. 107, f. 15. Aletia vitellina, *Hübn. Verz. Schmett.* 239, 2371. This is well known as a native of Europe, and three European specimens are in the cabinet of the British Museum; the only English example has lately been captured at sugar by Mr. Henry Cooke, in his own garden, at Brighton.

2. *Laphygma exigua.* The fore wings somewhat ash-coloured, marked with transverse undulated lines; these are indistinct and paler than the ground-colour; there are

also several discoidal, testaceous, orbicular and reniform annuli: hind wings opaline, very sparingly clothed with scales. The genus Laphygma was first characterised in Guenée's 'Noctuelites,' vol. i. p. 156. Its characters are:—Body hardly stout. Proboscis rather short. Palpi stout, short, ascending; third joint very minute. Antennæ simple, slender, about half the length of the body. Abdomen hardly extending beyond the hind wings. Legs moderately stout; hind tibiæ with four long spurs. Fore wings rather narrow, straight in front, rounded at the tips, moderately oblique along the exterior border; second inferior ray nearer to the first than to the third; fourth moderately remote. Hind wings delicate, pearly, semihyaline. There are nine described species. The species exigua is well known as a native of the South of France, Italy and Dalmatia. There are four European specimens in the cabinet of the British Museum. The following synonyms may be useful:—Noctua exigua, *Hübn. Samml. Eur. Schmett. Noct.* f. 362. Telmia exigua, *Hübn. Verz. Schmett.* 228, 2286. Caradrina exigua, *Treit. Schmett. Eur.* ii. 254; *Suppl.* x. 81. *Dup. Hist. Nat. Lép. Fr.* iii. 45, pl. 75. *Boisd. Ind. Méth.* 138, 1112. *Guen. Ann. Soc. Ent. Fr.* vi. 236. *Herr.-Schæff. Eur. Schmett.* ii. 212, 99; ii. *Noct.* pl. 66, f. 44. Laphygma exigua, *Noct.* i. 158, 252. The first recorded British specimen of this insect was taken by Mr. Wallace, in the Isle of Wight; and a second has since been taken at Brighton, by Mr. Cooke.—*Edward Newman.*

Description of a British Noctua new to Science.—The beautiful insect described below is a female, and was taken some years since by Mr. C. S. Gregson in Liverpool, near the docks, and presented by him to me: it was, no doubt, accidentally imported. I do not think it properly belongs to the genus Grammophora, but, as it bears a closer resemblance to that genus than to any other, I place it there, rather than create a new one: it has much the appearance of a Dipthera, hence the name I have chosen for it.

GRAMMOPHORA DIPTHEROIDES.

Expansion of wings 1¼ inch: palpi recurved, nearly naked: antennæ simple: head small, with a whitish spot between the antennæ: thorax small, slate gray: body thin, tapering to a point from about the middle, of a gray-colour down the middle and white at the sides, appears to have had a dark crest at the base, but being rather wasted it is impossible to determine: wings white; first pair narrow: near the base is an irregular dark gray line across the wing, between which and the extra-basal line is a patch of deep slate-gray across the wing, broadest at the inner margin, with a waved transverse black line down the centre: costa slate-gray, with a triangular interrupted gray patch, the apex of which is produced between the stigmata and branches into three waved lines to the inner margin, a large patch of deep slate-gray at the tip, and another at the anal angle joined together by three waved lines: there is a small curved black line from the tip, and another near the anal angle: stigmata large, both formed by a gray line, the reniform one being clouded with gray in the centre: second pair glossy, margined with gray, with a central lunule: cilia white: nervures distinct.—*Nicholas Cooke; 6, Wentworth Street, Everton, near Liverpool, September* 22, 1856.

Economy of Halias Quercana.—About the middle of August, 1853, while beating for larvæ, I knocked a female Halias Quercana out of one of the oak trees; it was damaged a good deal: however, I always had a great fancy for Quercana, having bred the perfect insect several times from the larva, so I put it into a pill-box, and I did not look at it for two days after; when I did, I found that it had laid a great number of eggs, and, without exaggeration, they were the most beautiful I had ever seen; they were marked all over, and covered with a gum to protect them from harm. What a beautiful provision of Nature! to see the parent protecting what was to be her future progeny from danger. Not knowing that this larva hybernated, I was thinking how I might take care of the eggs until spring, but, on looking into the box about eight days afterwards, I was surprised to see the young larvæ crawling about very rapidly: I collected as many as I could, and put them on an oak twig placed in a small phial of water, when they commenced to feed: they moulted the first time in about four days, the second time in ten days more, the third time in about three weeks afterwards, which was about the end of September; and, which is most remarkable, the larva, which is a beautiful green, turned to a brown, the colour of the bark of the trees, as if Nature ordained that the beautiful green would not suit the cold biting blasts of winter, but put on that colour to be in keeping with the season, and then, when the trees began to bud and flower, the beautiful green returned again. They made no winter nest, as some of the hybernating species do, but spun a strong kind of ladder or stage, where they stuck on, holding by their feet: after moulting the third time they ceased to eat, and continued in that state till the month of February, when I was very much surprised and disappointed by seeing them fall off one after the other until they were all dead.—*James M'Laren; Worley Barracks, Brentwood, Essex, September* 30, 1856.

Descriptions of two British Tineadæ new to Science. — A new species of the genus Gracilaria was captured in a yew-wood, at Godeth, near Conway, North Wales, September 3rd, 1856, by myself and Mr. T. Hague.

GRACILARIA HAIGHII.

Expansion of wings from 3 to 4 lines; face pale; head yellowish; antennæ dark; thorax yellowish red; body dark; base of wing yellowish red, shaded off with dark grayish brown until the red is almost absorbed at the apex; cilia very dark. Under wings dark brown; cilia the same colour. When alive, and sometimes after death, the insect has a beautiful peach-like bloom upon it.

The Tinea described below seems to have bred freely amongst rubbish-sweepings in warehouses at Liverpool:—

TINEA NIGRIFOLDELLA.

Expansion of wings, ♂, 5 to 7 lines; head and face buffish gray, sometimes dark brownish gray; antennæ dark, very slender, generally as long as the under wings when expanded; thorax and abdomen buffish gray, lighter than the head and glossy; legs buff. Upper wings buffish gray, suffused with darker atoms, a distinct dark streak near the lower margin, then a long dark streak in the fold; above this, slightly outwards, is a small dark spot, then another small streak, after which there is another spot or streak; in some specimens between these dark marks the wing appears lighter by contrast; the outer margin is streaky, especially at the apex of the wing, sometimes these streaks are continued round, then there are three or four fine streaks on the outer edge of the costa. The inner margin is buff, broken by the darker base mark and by the dark fold streak; cilia grayish drab; under wings gray; cilia grayish drab.

♀ expands from 7 to 9 lines; eggs oval, white.

The general appearance of the insect is that of a Plutella, especially when alive: it sits close, and has the cilia well up. It is one our largest Tineæ.

This has been objected to as a British species, because it was found in foreign goods-warehouses; but the objection would apply with equal force to many of the genus Tinea, and our very commonest species would have to be expunged; but as I consider every species (whether imported at first or not) which locates itself here and propagates its kind to be British, I now add it to our list, merely remarking that those who do not think as I do are quite at liberty to refuse it admission to their cabinets until they change their minds, which they must eventually do.—*C. S. Gregson; Stanley, near Liverpool, September* 22, 1856.

A Systematic List of Coleoptera found in the Vicinity of Alverstoke, South Hants. By ARTHUR ADAMS, Esq., F.L.S., Surgeon of H.M. Surveying Ship 'Actæon;' and WILLIAM BALFOUR BAIKIE, M.D., F.R.G.S., Haslar Hospital.

THE district to which the following paper refers extends from Alverstoke, as a centre, to a distance from four to five miles all round. During our acquaintance with it, comprising, at different times, a period of several years, we have collected a considerable number of species, many of them rare; and, being now on the eve of leaving England, we are desirous of recording the localities, for the benefit of itinerant entomologists, as well as of adding new *habitats* for several British insects. The country around Alverstoke is flat and rather low, and bounded along the South by the sea. The formation is the London clay, which stretches to the eastward as far as the chalky Portsdown Hill. The surface is remarkably free from stones and blocks, which, however desirable for the agriculturist, is not so favourable for the entomological collector.

The general arrangement we have adopted is that of Schaum's catalogue, several subdivisions being introduced for convenience of reference. The nomenclature of genera and species employed has been guided, as far as possible, by the law of priority: but, for the sake of those who are yet in the habit of using only Stephens' works, his names have generally been added. In comparing and arranging the synonymy we have derived much information and assistance from Dawson's standard 'Geodephaga Britannica,' and from Murray's model 'Catalogue of the Coleoptera of Scotland.'

GEODEPHAGA.

1. Fam. CICINDELIDÆ, *Leach.*

1. Cicindela, *Linn.*

C. campestris, *Linn.*, *Steph.* Very abundant, especially during July and August, on the camp-ground behind Haslar, and along the cliffs at Hill-head. Frequents bright, sandy spots, flies in the sun, and runs with great celerity.

2. Fam. BRACHINIDÆ, *MacLeay.*

1. Drypta, *Fabr.*

D. emarginata, *Fabr.* First captured in this locality, by one of the authors, in 1851. Solitary and not abundant, about damp, grassy banks and hedgerows, at Privet and Rowner. Sluggish by day, and apparently of crepuscular habits.

2. Demetrias, *Bon.*

D. atricapilla, *Linn.* Very common; in hedges and banks.

3. Dromius, *Bon.*

D. linearis, *Oliv.* Common; in banks and hedges.

D. agilis, *Fabr.*, *Steph.* D. meridionalis, D. fenestratus, *Steph.* Common; on hedgebanks.

D. quadrimaculatus, *Linn.* Not abundant; taken by Mrs. A. Adams under moss on elms in Rowner Copse.

D. melanocephalus, *Dej.* Rare; along banks of ditches at Privet.

4. Metabletus, *Schm.* Dromius, *Dawson*, *Steph.*

M. obscuro-guttatus, *Dufts.* M. spilotus, M. impunctatus, *Steph.* Local, but very abundant on hedge-banks at Privet, and along a ditch at Grange.

M. foveolus, *Gyll.*, *Steph.* Common; under stones.

5. Blechrus, *Motch.* Dromius, *Dawson*, *Steph.*

B. glabratus, *Dufts.* B. femoralis, B. angustatus, B. maurus, *Steph.* Common; under clods in ploughed fields.

3. Fam. SCARITIDÆ, *MacLeay*.

1. Clivina, *Latr.*

C. fossor, *Linn.* Not common; found in mud of swamps at Stokes Bay.

C. collaris, *Herbst.* Not frequent; muddy bank of a ditch near Grange.

2. Dyschirius, *Panz.*

D. thoracicus, *Fabr.*, *Steph.* D. arenosus, *Steph.* Occasional; along the edges of a muddy ditch near Grange.

4. Fam. CARABIDÆ, *MacLeay*.

1. Carabus, *Linn.*

C. catenulatus, *Scop.*, *Fabr.* Rather common; in fields.

C. monilis, *Fabr.*, *Steph.* C. consitus, *Steph.* Common; in fields.

C. granulatus, *Linn.* Rather abundant; in copses about Grange.

C. violaceus, *Linn.*, *Steph.* C. purpurascens, C. exasperatus, *Steph.* Very common; in fields and gardens.

C. nemoralis, *Müll.*, *Ill.*, *Steph.* C. hortensis, *Steph.* Common; in waste places and in gardens.

2. Leistus, *Fröhl.*

L. fulvibarbis, *Dej.*, *Steph.* L. Janus, L. indentatus, *Steph.* Rather abundant; under damp *débris* in hedgerows.

L. ferrugineus, *Linn.* Not unfrequent; under loose clods along hedges.

3. Helobia, *Leach.* Nebrix, *Dawson.*

H. brevicollis, *Fabr.*, *Steph.* H. varicornis, H. lata, *Steph.* Very common; under stones and logs.

5. Fam. ELAPHRIDÆ, *Steph.*

1. Elaphrus, *Fabr.*

E. cupreus, *Dufts.* Rather abundant; along muddy ditches at Grange.

2. Notiophilus, *Dum.*

N. aquaticus, *Linn.* Not abundant; under moss in marshy places near Stokes Bay.

N. palustris, *Dufts.* N. tibialis, *Steph.* Common; hiding in damp hedgebanks.

N. semipunctatus, *Fabr.* N. biguttatus, N. palustris, *Steph.* Very common; in dry banks. Runs quickly in the sun.

6. Fam. HARPALIDÆ, *MacLeay.*

1. Panagæus, *Latr.*

P. quadripustulatus, *Sturm.* One specimen taken near Fort Monkton, by Mr. Dawson, and another, by one of the authors, on the roadside at Browndown, in 1855.

2. Loricera, *Latr.*

L. pilicornis, *Fabr.* Very common; under weeds and stones along sides of damp ditches.

3. Chlænius, *Bon.*

C. vestitus, *Payk., Fabr.* Not common; along the banks of ponds near Stokes Bay.

C. nigricornis, *Fabr., Steph.* C. melanocornis, C. fulgidus, *Steph.* A specimen taken by H. Adams, Esq., in a muddy ditch at Grange, September, 1855; and another captured by one of the authors in a field near Alverstoke, August, 1856.

Dinodes, Bon.

D. Maillei, Dej. An imperfect specimen taken by one of the authors, in the spring of 1851, *at Fish-hook Bay, Isle of Wight.*

4. Oödes, *Bon.*

O. Helopioides, *Fabr.* Five specimens have been captured, four from decayed willow-pollards in Rowner swamp, and one under dead reeds in a ditch at Grange.

5. Badister, *Clairv.*

B. unipustulatus, *Bon.* B. cephalotes, B. suturalis, *Steph.* One specimen taken in June, 1855, under a log at Rowner.

B. bipustulatus, *Fabr., Steph.* B. microcephalus, B. lacertosus, *Steph.* Not unfrequent; under *débris* in dry ditches.

6. Pristonychus, *Dej.*

P. terricola, *Herbst.* (1794). P. subcyaneus, *Ill.* (1801). Abundant in cellars at Haslar Hospital.

7. Calathus, *Bon.*

C. Cisteloides, *Panz.*, *Ill.* Very common; under stones, logs and *débris.*

C. fuscus, *Fabr.*, *Steph.* C. rufangulus, *Steph.* Not abundant; under stones along Stokes Bay.

C. mollis, *Marsh.* Under small heaps of dried sea-weed on Southsea Common.

C. melanocephalus, *Linn.*, *Steph.* C. apicalis, *Steph.* Common; under stones in ditches.

8. Synuchus, *Gyll.* Taphria, *Bon.*

S. vivalis, *Panz.*, *Steph.* Occasional; about grassy banks near Privet.

9. Anchomenus, *Bon.*

A. dorsalis, *Müll.* (1776). A. prasinus, *Thunb.*, *Fabr.*, *Steph.* Very abundant; among grass, and under *débris* along hedges and in ditches. Of gregarious habits.

A. pallipes, *Fabr.* (1787). A. albipes, *Fabr.* (1801), *Steph.* Tolerably common; under dead leaves in marshy places.

A. oblongus, *Fabr.* Occasional; under moss and dead leaves in copses near Rowner.

10. Agonum, *Bon.*

A. marginatum, *Linn.* Plentiful; under stones along damp margins of streams about Stokes Bay.

A. læve, *Müll.* (not *Steph.*) A. parumpunctatum, *Fabr.*, *Steph.* Common; banks of moist ditches.

A. mœstum, *Dufts.* A. afrum, A. versatum, A. læve, A. emarginatum, A. Bogemanni, *Steph.* Under leaves in damp places in Rowner Copse; not unfrequent.

A. fuliginosum, *Panz.* A. Simpsoni, A. pullum, A. striatum, A. pusillum, A. fuscipenne, A. gracile, A. 4-punctatum and A. piceum, *Steph.* Tolerably abundant; under dead leaves in damp places in the copse at Rowner.

A. piceum, *Linn.* (not *Steph.*) A. picipes, *Steph.* Under damp leaves in Rowner Copse; in some abundance.

11. Olisthopus, *Dej.*

O. rotundatus, *Payk.*, *Steph.* O. rotundicollis, *Steph.* Common; about roots of grass in damp woods at Rowner.

12. Pœcilus, *Bon.*

P. cupreus, *Linn.*, var. versicolor, *Sturm.*, *Steph.* Not common.

P. dimidiatus, *Oliv.* Two specimens; the first captured by Mr. C. Barron, on the camp-ground behind Haslar; and the other taken by one of the authors, in a wheat field at Frater, in 1854.

13. Argutor, *Meg.*

A. vernalis, *Gyll.*, *Dej.*, *Steph.* A. unquinatus, *Steph.* Common; under leaves in copses.

A. strenuus, *Panz.*, *Steph.* A. pullus, A. diligens, *Steph.* Very common; under *débris* in copses.

14. Omaseus, *Ziegl.*

O. melanarius, *Ill.*, *Steph.* O. affinis, O. sulcatus, *Steph.* Common; under stones and clods.

O. nigrita, *Fabr.*, *Steph.* O. rufifemoratus, *Steph.* Common; along damp ditches at Grange.

O. anthracinus, *Ill.* Rather abundant; under loose earth in damp places at Grange.

O. gracilis, *Dej.* O. tetricus, O. rotundicollis, *Steph.* Occasional; under moist dead leaves in Rowner Copse.

O. minor, *Gyll.* O. lævigatus, O. anthracinus (Argutor), *Steph.* Not common; under logs and stones.

15. Steropus, *Meg.*

S. madidus, *Fabr.*, *Steph.* S. arrogans, *Steph.* Here, as elsewhere, one of the most numerous and widely diffused of Geodephaga.

16. Abax, *Bon.*

A. Striola, *Fabr.* Very common; under logs, stones and *débris.*

17. Broscus, *Panz.*

B. Cephalotes, *Linn.* C. vulgaris, *Bon.*, *Dej.* Occasional along Hillhead beach; more abundant burrowing along the sandy coasts of Hayling Island; also on Southsea Common, under marine *rejectamenta.*

18. Stomis, *Clairv.*

S. pumicatus, *Panz.* Frequently found, though in small numbers, under sods and along boggy banks of ditches at Grange.

19. Zabrus, *Clairv.*

Z. piger, *Fourc.* Z. gibbus, *Fabr.*, *Steph.* Several taken annually in fields, especially among wheat stubble, and along roadsides near Alverstoke.

20. Amara, *Bon.*

A. plebeia, *Gyll.*, *Steph.* A. nitida, *Steph.* Common; along roadsides.

A. similata, *Gyll.* Rather common; dry, dusty paths.

A. trivialis, *Gyll.*, *Steph.* A. atra, *Steph.* Very common; roads and fields.

A. communis, *Gyll.* Abundant everywhere.

A. familiaris, *Dufts.*, *Steph.* A. cursor, A. lucida, A. lævis, *Steph.* Tolerably abundant; along fields, paths and roads.

A. tibialis, *Payk.* Less abundant; roadsides.

21. Bradytus, *Steph.*

B. apricarius, *Fabr.*, *Steph.* B. torridus, *Steph.* Very common; in fields and along banks. Flies by night, occasionally in large numbers, through lighted windows.

22. Anisodactylus, *Dej.*

A. binotatus, *Fabr.*, *Steph.* A. rufitarsis (Harpalus), A. calceatus (Harpalus), *Steph.* Not uncommon; under loose turf at sides of ditches at Grange.

23. Ophonus, *Ziegl.*

O. sabulicola, *Panz.*, *Steph.* A specimen taken, during the summer of 1853, by Dr. Power, near a hedgebank in Privet.

O. obscurus, *Fabr.*, *Steph.* O. stictus, *Steph.* Rare; under stones on sandy heaths.

O. azureus, *Fabr.* Rare; under stones on heaths.

O. puncticollis, *Payk.*, *Steph.* O. foraminulosus, O. punctatissimus, O. puncticeps, *Steph.* Rather rare; under stones in dry situations.

O. obsoletus, *Dej.*, *Steph.* Two specimens taken by one of the authors under *débris* in sandy spots on Southsea Common, September, 1856.

ARTHUR ADAMS.
WILLIAM BALFOUR BAIKIE.

(To be continued).

Haslar, September 22, 1856.

***Carabus intricatus* in Devonshire.**—I had the pleasure of taking a specimen of this rare beetle on the 9th of the present month. I had been to the confines of Dartmoor, with a friend, collecting ferns; and on returning home through a wood I saw this beautiful insect trying to get through the grass on the edge of the pathway. One of the abdominal segments was severed, which lessened its locomotive power, almost depriving it of the power of moving; hence the capture. I have since hunted in the same place, but without success.—*J. J. Reading ; Plymouth, September* 23, 1856.

Note on Localities for Agabus brunneus and Hydroporus opatrinus.—Two of our rarest water-beetles are Agabus brunneus, *Fab.*, and Hydroporus opatrinus, *Germ.;* probably only the rarest because their habits are peculiar or at present unknown. Like Hydroporus Scalesianus, they will ere long be in all our cabinets. I took both these species in Spain, in shallow, half-dried-up mountain streams, during the month of June last; brunneus was buried in thick masses of green filmy matter that here and there lay at the edges of the water; opatrinus more sparingly under stones and among gravel at the bottom of little pools. In looking for it I found the easiest mode, when practicable, to turn off the water into another channel, and then patiently watch and examine the wet stones and shingle; in a few minutes several species make their appearance, among them (sometimes among gravel three or four inches from the surface) is conspicuous the grand black opatrinus. I captured a few specimens in larger pools, by violently raking up the gravel at the bottom to the depth of several inches, and (when everything was in wild confusion and the water the colour of coffee) dipping with the net quickly and forcibly; generally, however, in collecting in such localities a net is of little service. Which of our coleopterists will this autumn test, as regards the existence there of these insects, the little rivulets of our British hills and mountains? This month, the commencement of autumn, is just the proper season; June, in the southern districts of Spain, is too late for summer collecting, and represents our September or October. Both species *have* occurred in England, and may again be found. I know of many streamlets in Wales and Scotland fulfilling all the conditions of these beautiful streamlets of Andalusia, their watercourse unsheltered by trees or brushwood, too high up in the mountains and too precipitous for trout, their beds of shingle interspersed with rocks, moss-grown, Hydræna-peopled, over which the tiny stream trickles into its miniature pool below. I should follow these rivulets far up into the hills, till the pools formed by them were no bigger than a basin; and there, or I am much mistaken, I should discover these long-lost species.—*Hamlet Clark ; Harmston Vicarage, September*, 1856.

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

September 1, 1856.—W. W. SAUNDERS, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—'The Journal of the Royal Agricultural Society of England,' Vol. xvii.

Part I.; presented by the Society. 'Proceedings of the Zoological Society,' Nos. 299 to 309, both inclusive; by the Society. 'The Zoologist' for September; by the Editor. 'The Literary Gazette' for August; by the Editor. 'The Journal of the Society of Arts' for August; by the Society. 'The Entomologist's Weekly Intelligencer,' Nos. 19, 20, 21, 22; 'Manual of British Butterflies and Moths,' No. 7; by H. T. Stainton, Esq.

The late William Yarrell, Esq.

The President stated he had received intelligence that Mr. William Yarrell had died that morning suddenly at Yarmouth. Mr. Yarrell had been one of the original members of the Society, and soon after became its Treasurer, which office he resigned four years since, when our present estimable Treasurer succeeded him. Though not an entomologist, he had taken great interest in the Society: no man had done more for the Natural History of this country, and his loss would be severely felt.

Election of a Member.

Ernest Adams, Esq., of Great Camden Street, Camden Town, was balloted for and elected a Member of the Society.

Dr. Erichson's 'Naturgeschichte Deutschlands.'

Mr. Westwood remarked that, in the continuation of Dr. Erichson's 'Naturgeschichte Deutschlands,' to which he had briefly called attention at the last meeting, opinions were advanced which, if carried out, were likely to introduce great modifications in our views regarding species: very many recently made species have been therein sunk into local varieties, the principle identical with that enunciated in Mr. Wollaston's recent work having been applied to a much greater extent in the present than in any previous publication. He thought that entomologists would do well to consider how far these views are applicable to the Lepidoptera and other orders, as well as to the Coleoptera: if extended to the Micro-Lepidoptera, he had no doubt that the present enormous list of species would be reduced one half.

Exhibitions.

Mr. Edwin Shepherd exhibited, on behalf of Mr. E. Wallace, specimens of Laphygma exigua and Botys silacealis, taken this season in the Isle of Wight: he observed that Haworth's specimen of the latter species, the "Pyralis glabralis" of 'Lepidoptera Britannica,' was obtained by that author from Francillon's collection, and had for many years been placed amongst the reputed British species, the collection of Francillon having been considered a most doubtful authority: the last season, however, had furnished single examples of two of Francillon's doubted species, *viz.*, the present insect and Trochilium chrysidiforme, and several specimens of each had been captured during the present year.

Mr. Stevens said he had lately seen a specimen of Laphygma exigua in the collection of Mr. H. Cooke, taken at Worthing.

Mr. E. W. Janson exhibited the following Coleoptera, recently captured by him in the vicinity of Highgate:—

Dinarda Maerkelii, *Kiesenw.* Three specimens taken in a nest of the large wood-ant (*Formica rufa*), one on the 13th of July, the other two on the 24th ultimo. He remarked that the only previously known indigenous example of this insect is in the British Museum collection, and was taken by Dr. Leach many years since, it is said, near Swansea: this individual is admirably represented by Mr. Curtis (Brit. Ent. tab. 410), and is given by Mr. Stephens, in the 'Illustrations' and 'Manual,' under the specific appellation of dentata, *Grav.*, but Herr v. Kiesenwetter, long ago (Ent. Zeit. Stett. 1843), pointed out that the Gravenhorstian dentata (Lomechusa) was specifically distinct from the insect exhibited, and in this view all subsequent writers appear to coincide. British specimens of the true dentata, *Grav.*, had not come under Mr. Janson's notice.

Dendrophilus pygmæus, *L.* Two specimens, likewise an inhabitant of, and found on the 20th of July in, nests of Formica rufa. One other individual only of this insect is extant, he believed, in British cabinets, namely in that of our late respected honorary President, the Rev. W. Kirby, who applied to it the trivial name of Sheppardi, under which it has been beautifully figured by Mr. Curtis (Brit. Ent. tab. 131), and described in the works of Mr. Stephens. Dr. Aubé has likewise described and delineated it (Annales de la Soc. Ent. de France, tome ii.) as Hister formicetorum, *Sibi.* Dr. Erichson (Kaefer der Mark Brand), having before him a Swedish example, refers it without doubt to the Hister pygmæus of Linnæus, Paykull and Gyllenhal, remarking that "the descriptions of the two last-named writers being somewhat indefinite, it might well happen that such accurate entomologists as Aubé and Curtis failed to recognise it."

Dorcatoma rubens, *Ent. Hefte*, *Steph.* One specimen taken a day or two since in a decaying oak, and which, it would appear, was an extraordinarily precocious individual, as no others were to be found, although the larvæ, evidently about to assume the pupa state, were in abundance: on these he would bestow occasional attention, and hoped at no distant period to be able to furnish his friends with this species, whose allotted space in our cabinets had remained so long almost universally vacant.

Cryphalus binodulus (*Weber*), *Ratzeburg.* Four specimens, both sexes, taken a day or two back in the bark of an aspen (*Populus tremula*). This genus (a dismemberment of Bostrichus), of which no member had hitherto been recorded as British, was erected by Dr. Erichson for the reception of those species in which the antennæ have the funiculus consisting of four articulations (in Bostrichus, as restricted by the same author, the funiculus is 5-jointed). For a beautifully characteristic figure of the male of this species, from the accurate pencil and graver of S. Weber, he referred the student to the first volume of Ratzeburg's 'Forst-Insecten,' tab. xiii. fig. 18.

Mr. Stevens stated that, amongst a quantity of plants lately received from Mr. Mason at Madeira, he had found several Lepidopterous larvæ, which had produced a species of Plusia allied to P. Gamma, and several specimens of a curious Pyralis, both of which he exhibited: he observed that no doubt many reputed British species had been brought into this country in a similar manner.

Mr. Hunter took this opportunity of stating that some doubts existed as to the claims of the specimen of Eriopus Latreillii, which he exhibited at the last meeting, to be considered a British insect; it was found on the outside of one of his breeding-cages, and as there was a quantity of foreign plants in the house at the time, it probably had been imported therein: he certainly had had no larva bearing any resemblance to the descriptions given by Continental writers of that of Eriopus Latreilli.

Mr. Douglas exhibited, on behalf of Mr. Turner, an apparently new species of Depressaria, probably D. Libanotidella, taken near Newhaven, Sussex.

Mr. Newman sent for exhibition some curious Cocci, covered with a downy substance, found on grass at Darenth Wood.

Mr. Westwood had found an allied species at Walton: the insect exhibited by Mr. Newman appeared to him to be identical with, or very closely allied to C. Festucæ, described by M. Boyer de Fonscolombe in the 'Annales de la Société Entomologique de France,' 1854, pl. 3, f. 9.

Mr. Westwood stated he had received some curious masses of eggs, found on yew trees in Sir Walter Trevelyan's woods, in Northumberland: the masses were of the size of a large bean, and the eggs were arranged in transverse rows in gelatinous matter; some of these had hatched, and produced larvæ of a Phryganea. He observed that Kolenati, in his 'Genera et Species Trichopterorum,' makes no allusion to the deposition of the eggs of any species of Phryganea on the leaves of trees or out of the water; and Professor Pictet, in his 'Recherches pour servir à l'Histoire et a l'Anatomie des Phryganides,' merely observes, "Quelques auteurs en ont vu hors de l'eau, sur les feuilles des plantes mais je n'ai jamais trouvé dans cette position." The only author who appears to have made any observations upon the subject is De Geer, who has represented the masses of eggs and young larvæ of Phryganea grandis upon a leaf, and which appear to be identical with those which he had received. De Geer's observation has, however, been overlooked by most subsequent systematic writers upon these insects; Pictet, indeed, entirely omits Phryganea grandis, from not being a Swiss species, whilst Kolenati and Stephens, both of whom quote De Geer, omit all notice of this curious fact. Mr. Curtis, indeed, notices De Geer's observations of the deposition of the double masses of jelly inclosing the eggs of P. grandis upon sallow-leaves which hung over a stream, but adds an observation of Mr. Hyndman, of Belfast, in which the female P. grandis was seen to descend down the stem of an aquatic plant to the depth of a foot beneath the surface of the water, for the purpose of depositing its eggs; possibly the eggs now communicated may be those of a distinct species, as its habit of depositing its eggs out of water seems uniform: the masses of eggs were found not only on yew trees, but also on firs, as well as on the water dock. Mr. Westwood added that several years ago he had received precisely similar masses of eggs, found on the leaves of a tree at the same place.

Mr. Walker said that he had observed the common species of Limnephilus was especially partial to yew trees: the eggs in question might be of that species.

The President remarked on the vast quantities of Phryganeæ he had seen at Windermere during the recent hot weather.

The Rev. J. Greene sent for exhibition some varieties of Lepidoptera, including a singular orange-coloured specimen of Cleora Lichenaria.

Mr. Stevens exhibited living larvæ of Macroglossa stellatarum, taken near Deal; also living larvæ of Agrotis Ashworthii, about three weeks old, bred from eggs received from Wales.

Mr. Dutton exhibited a curious variety of Argynnis Adippe, taken in July last near Brockenhurst; also some rare Lepidoptera from the Isle of Wight, including Heliothis armigera, Agrotis lunigera, Xylophasia sublustris, &c.

Mr. Moore exhibited a box of Coleoptera and Hemiptera lately taken at Southend.

Mr. Walker observed that he had recently found Aphodius rufipes flying to a light at night; it was, he believed, the only night-flying species of the genus.

Mr. Douglas had also found A. fossor attracted by a light.

Mr. Stevens stated he had lately taken four or five specimens of Helops pallida at Deal.

Mr. Smith read a paper, by Mr. Frederick Bates, intituled "Description of a New Species of the Genus Myrmecilla."

October 6, 1856.—J. O. Westwood, Esq., Vice-President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—'Proceedings of the Royal Society,' vol. viii. No. 22; presented by the Society. 'Mémoires de la Société de Physique et d'Histoire Naturelle de Genève,' Tome xiv. 1re Partie; by the Society. 'Exotic Butterflies,' Part XX; by W. W. Saunders, Esq., F.R.S. 'List of the Specimens of Lepidopterous Insects in the Collection of the British Museum,' Part VIII., Sphingidæ; by the Author, F. Walker, Esq., F.L.S. 'Revue et Magasin de Zoologie,' 1856, Nos. 6 and 7; by the Editor, M. F. E. Guérin-Méneville. 'The Zoologist' for October; by the Editor. 'The Entomologist's Weekly Intelligencer' for 1856; the same work, Nos. 23, 24, 25 and 26; 'Elements of Entomology: an Outline of the Natural History and Classification of British Insects,' by W. S. Dallas, F.L.S.; 'A Manual of British Butterflies and Moths,' by H. T. Stainton; by H. T. Stainton, Esq. 'The Athenæum' for August and September; by the Editor. 'The Literary Gazette' for September; by the Editor. 'The Journal of the Society of Arts' for September; by the Society. 'Kritische Bemerkungen über M. S. Merian Metamorphoses Insectorum Surinamensium;' 'Untersuchungen über die Flügeltypen der Coleopteren;' by the Author, Dr. H. Burmeister. A box of minute Coleoptera from Ceylon; by Wm. Spence, Esq., F.R.S.

Exhibitions.

Mr. Stevens exhibited a fine specimen of Carabus intricatus, which had lately been picked up dead near Plymouth; also a pair of Monohammus Sutor, found in an old ash tree near Yaxley, Hunts; and a bottle containing a quantity of liquorice powder, which, although the cork had not been taken out for five years, contained several living specimens of Endrosis fenestrella, the larvæ of which had evidently subsisted on the powder, and on the end of the cork inserted in the neck of the bottle.

Mr. Stevens also exhibited a box of beautiful Lepidoptera, chiefly minute species of Pyralidæ and Tineidæ, taken by Mr. Diggles at Moreton Bay. Many of these species were bred from the larva. Mr. Stevens observed that Mr. Diggles, who is an artist by profession, would be happy to enter into engagements with any persons who might require drawings of the larvæ of any species bred by him.

Mr. Stainton exhibited some cases, formed by the larvæ of various South Australian Lepidoptera, including curiously ribbed cases of a species of Psyche.

Mr. Lubbock exhibited some blind Gammari, from a well at Brighton. He observed that the eyes were absent or very rudimentary, as in Niphargus spelæus, from which species, however, the present specimens appeared to differ in the form of the posterior legs. They are probably identical with Gammarus subterraneus of Leach. That naturalist, however, does not describe his specimens, and even suggests that they might be only the young of the common freshwater species, which is evidently not the case with those exhibited. The interesting fact of the presence of blind Amphipods has now been ascertained in four different localities in this country, *viz.*, London, Maidenhead, Bromley (in Kent), and Brighton, and would probably be found to be more common if those who observe them in their well-water would send them to this Society or to any naturalist.

Mr. Stainton exhibited some larvæ of Lepidoptera preserved in hermetically sealed glass tubes containing spirits, which had been forwarded to him by a glass-tube manufacturer in Hatton Garden, who, he stated, would be happy to exchange similar tubes for examples of British Lepidoptera.

Mr. Westwood stated he had lately received some curious pale varieties of the larvæ of Acherontia Atropos, similar to that figured in Fuessly's 'Archives.' It would be interesting to know whether that variety had occurred generally this season, and whether it was owing to any peculiarity in the food of the larvæ, or to the circumstance that the insect was near the period of its transformation, and had undergone a change in its colour.

Mr. Stainton remarked that several of his correspondents had taken the larvæ this autumn, but all appeared to be of the ordinary colours.

Mr. Dutton exhibited a curious variety of the female Polyommatus Adonis, having the under side very dark and the ordinary ocelli nearly obsolete. He stated that he lately noticed Stenopteryx hybridalis in great profusion on the cliffs at Eastbourne, although on the previous and following days not a single example was to be seen. He added that there was no perceptible atmospheric change during the three days to account for this circumstance.

Mr. Westwood brought for distribution amongst the members specimens of Lophyrus rufus. He had received a great quantity of larvæ from one locality, all of which produced females; from others, obtained near Weybridge, he had bred both sexes. He observed that these instances of the occurrence of one sex in insects were extremely interesting. It was a well-known fact that the queen bee at times only laid male eggs, which caused great derangement in the internal economy of the hive, and frequently the destruction of the stock. A correspondent of his had lately purchased some seeds of the Wellingtonia gigantea, from every one of which he had bred females of a Chalcideous insect of the genus Callimome, which evidently had been parasites of some Lepidopterous larvæ feeding in the seeds. Mr. Parfitt, of Exeter, had also only obtained females of the British ink-gall Cynips, from the galls which he had kept in order to obtain the perfect insects; he had also obtained a great number of females of the species of Callimome parasitic on the Cynips, and only a single male.

Mr. Westwood also brought for distribution specimens of the small honey-moth (*Achroea alvearia*). He stated that at the Trade Museum, formed in the spring of 1855, by the Society of Arts, he had exhibited two cases illustrative of the history of beneficial and injurious insects. The former contained numerous illustrations of the economy of the hive-bee, including various specimens of honeycomb, in one of which the eggs of A. alvearia must have been introduced, as recently nearly all the contents of the case had been devoured by the larvæ. It was interesting to notice that the bodies of several queen bees were entirely, and those of the drones partially, exempted from the general destruction, doubtless owing to their containing no wax, whilst the bodies of the worker bees were devoured; also that a piece of bees' wax, which had been obtained by immersing the comb in boiling water, was scarcely touched. He added that the case also contained specimens of different species of Coccidæ, used both for dyeing and for the production of wax. The former had not been touched; but amongst the latter were some fine examples of the wax-insect of China (*Coccus Pela*); and in the inside of each specimen was a cocoon and pupa of the alvearia. Had these specimens and the empty pupa-case therein been found at a future time by any one ignorant of the circumstances, it might very naturally have been inferred that it was the pupa-case of some Lepidopterous insect parasitic on the Coccus. The larvæ had also burrowed deeply into the cork lining of the box; they seemed, however, to have avoided attacking newly developed worker bees, and also comb filled with honey.

Mr. Waterhouse stated, as an instance of the voracity of the larvæ of A. alvearia, that, having a number of them in a glass jar, on the top of which he placed a thick book, in a short time the larvæ ate completely through the book, and made their escape.

Mr. Moore exhibited specimens of Lophyrus rufus, reared by him from larvæ taken near Mickleham.

Mr. Westwood read a letter on the unusual scarcity of the May-fly this season, which had been addressed to him by the late Mr. Yarrell a short time previous to his death. He thought it probable the scarcity alluded to might be owing to the perfect insects having been developed, in the previous season, during wet weather, and thereby destroyed before depositing their eggs.

Mr. Shepherd exhibited, on behalf of Mr. Buxton, a series of specimens of Noctua festiva, taken in the North of Scotland, last summer. Some of these specimens, he remarked, approached very closely to the Noctua conflua of Iceland, which probably is only an extreme northern variety of N. festiva.

Mr. Westwood stated he had lately received from Mr. Parfitt a very small cornuted species of Bledius, which was evidently new to the British list. It had been taken beneath marine *rejectamenta* at Exmouth.

Mr. Stainton stated that Mr. Newnham had lately discovered the larva of Hyponomeuta vigintipunctatus on Sedum Telephium, at Guildford; he (Mr. S.) had found the larva in a garden at Lewisham twenty years ago, on a plant of the Sedum, brought from the neighbourhood of Tunbridge Wells: this was the only previously known instance of the capture of the larva in this country.

Mr. Syme exhibited larvæ of Deilephila Galii preserved in spirits: he stated that he had recently captured several on the sand-hills near Deal. When young the larvæ are bright green, and very difficult to find; as they approach maturity they become olive-coloured: they appear to feed in the early morning, concealing themselves in the tufts of long grass during the rest of the day, and are then only to be traced by their excrement.

Mr. Smith observed that the specimens which he found at Deal last year were crawling in the warm sunshine.

Mr. E. W. Brayley remarked, with reference to the statement made by Mr. Dutton respecting the abundance of Stenopteryx hybridalis on one day and its nonoccurrence on the preceding or following ones, that such facts appeared to throw great light on the circumstance alluded to by Mr. Westwood, in his 'Memoirs on Fossil Insects,' recently published by the Geological Society, of great masses of insects' remains being occasionally found in close juxtaposition, whilst in the immediately adjoining layers there were no such deposits. Another fact bearing on the same subject had been stated with regard to vast quantities of dead ants which had occurred along the shores of the rivers of South America, extending for many miles: these would naturally be covered with a layer of sand or other deposit, and it would be evident that the latter and all future layers would be destitute of insect remains until a fresh swarm of ants had been overtaken by the water, and washed up as before.

Mr. Westwood said it was interesting to observe that facts such as those noticed by Mr. Dutton, which at first sight seemed trivial, might possess considerable importance, and even occasionally afford a satisfactory solution to a great scientific question.

Mr. Frederick Smith read the following description of a most extraordinary aculeate Hymenopterous insect recently received from Australia:—

" LAMPROCOLLETES BIPECTINATUS.

" Black; the head punctured and shining; the face and cheeks clothed with hoary pubescence, distinctly plumose under a high power of the microscope; the mandibles ferruginous at their apex; the antennæ bipectinate, the pectinations irregularly toothed. Thorax shining and punctured, thinly clothed with hoary pubescence; wings hyaline and iridescent, the nervures rufo-testaceous; the claw-joint ferruginous; the calcariæ pale testaceous. Abdomen sub-ovate, shining and finely punctured; the margins of the segments constricted; clothed above with a thin short hoary pubescence.

" Male. Length 4¼ lines.

" Habitat: Australia. Taken by W. Stutchbury, between Sydney and Moreton.

" In the collection of the British Museum."

Preparation of the Larvæ of Lepidoptera.

Mr. Stainton read the following communication from Dr. Collingwood:—

" The preparation of the larvæ of Lepidopterous insects has long been a desideratum: while the imago requires but little management, being, with the exception of those that 'run greasy,' little prone to decay, the caterpillar form, on the other hand, being soft and juicy in the extreme, cannot possibly be preserved in our cabinets without undergoing some process, which, however effectually it may preserve it, as certainly destroys the symmetry of form and delicacy of colour of these perishable, though often beautiful subjects of entomological study.

" In my frequent visits to the Imperial Cabinet of Zoology at Vienna, I could not fail to be struck with the extremely beautiful preparations illustrative of the transformations of insects, exhibited in the upper story of that establishment. In glass cases suspended against the walls is a most instructive series of insects in every stage of their remarkable career, and preserved in a perfection of beauty I have nowhere seen paralleled. This series appeared to be very attractive, and was generally thronged with humble admirers, who probably saw, for the first time, and to their great astonishment, the various changes which insects undergo. But among the forms thus preserved, the caterpillars were pre-eminent; their unchanged forms, delicate colours and characteristic attitudes, looking exactly like life.

"Thinking that British entomologists would be glad to be able to add to their collections similar specimens, I determined, before quitting Vienna, to learn the process by which they were prepared. Unfortunately, however, I found that the director, Herr Redtenbacher, to whom I looked for information, was absent; but this circumstance was, to a great extent, remedied by the kindness of my friend Dr. Ernst Brücke, Professor of Physiology in the University of Vienna, who, in a letter lately received, has given me the following information, derived from Herr Redtenbacher:—

"The caterpillars, he says, are eviscerated through the anus, and the skin is then blown out, being fixed upon a tube ('man blöss sie an einen Tübülüs befastigt aüf'), and carefully held all the while over a pan of hot coals, until they become quite dry, and are no longer liable to change their form. Caterpillars with peculiarly delicate colours, such as green or pale rose, are liable of course to lose their colours in this drying process. To replace them, a mass of wax, of the natural hue of the insect, is poured in through the opening by which it was eviscerated.

"The Professor adds, that the beauty of these preparations, as seen in the Imperial cabinet, depends less upon the nature of the method than upon the manual dexterity of the operator, assisted by long practice. I doubt not, however, that many members of the Entomological Society possess this dexterity to an extent quite great enough to produce specimens equal to those I have described, especially when the hope of enriching their cabinets has induced the practice necessary to the attainment of perfection."—*E. S.*

Long-tailed Field-mouse.—The Rev. Gilbert White mentions having witnessed a female of this species travelling with her young attached to her teats. This anecdote always appeared to me extraordinary, and I had many times thought that the good old historian must have been mistaken; for, having seen many hundreds of nests, parent animals and their young, during the breeding-season, I had never met with a similar circumstance. But the historian of Selborne is probably correct. One day during the summer which is just passed I found a nest of this mouse in a clover-field which had just been mown. Upon disturbing the nest, the female made her escape through the stems of the clover, having attached to her hinder parts (but whether to the fur or teats I cannot positively say, though I tried hard to ascertain) three young ones, about a third of her own size. The young were all close together, with their backs upward; and the four might have been mistaken for a single animal, or a large brown reptile trailing through the grass. The mouse, although thus encumbered, travelled with considerable speed, but scarcely so fast as it usually does. She showed much affection for her young; and when, having travelled many yards, the young became detached from her person she would not leave them, and could scarcely be frightened from the spot.—*John Joseph Briggs; King's Newton, Derby.*

Ornithology of Andalusia. By CAPTAIN WATKINS.

HAVING read with great interest the Rev. W. T. Bree's and the Rev. A. C. Smith's accounts of the Natural History of Switzerland, I venture to send the following imperfect account of the Ornithology of Andalusia, a province particularly rich in birds, from its proximity to Africa, hoping that some may find pleasure in reading it. I am myself much interested in Natural History, and have a goodly collection of birds, British and European, as also some five-and-twenty cases of American birds, obtained during three years' service with my regiment in Nova Scotia. I merely send a list of a few of the birds observed in the province, of most of which I was able to obtain specimens, and have now the pleasure of seeing them stuffed in my collection, recalling many pleasant scenes and happy hours spent in the wild and lovely province of Andalusia.

Common Vulture (*Vultur fulvus*). This magnificent and useful bird forms a striking feature in the Ornithology of this part of Spain: in the neighbourhood of Gibraltar they are very numerous, being seen at times in large flocks of from twenty-five to fifty, particularly where there is anything in the shape of a dead horse or cow in a state of decomposition. These birds form the scavengers of the country, and indeed of almost all hot climates; and when one views them soaring, with outspread wings, through the air, at times ascending until their large size appears no larger than a small hawk, and then descending in large circles until within gun-shot of the ground, knowing full well that their keen sense of smelling is guiding them unerringly to the spot where a savoury meal awaits them, one cannot but acknowledge the infinite wisdom of the Almighty, who has formed these birds, as well as every other living creature, each in its own sphere to be of service to man. I had the good luck to shoot a splendid specimen of this bird when out boar-hunting in the cork wood, bringing him down from a great height with a heavy charge of buck-shot: he was, when killed, I must own, a most repulsive-looking object (having lately breakfasted), a most offensive smell bearing ample testimony that he had not failed to do his part towards ridding the country of offensive matter. The wild and beautiful scenery of this part of Spain adds in no small degree to the pleasure of the Ornithologist. Who does not feel a thrill of pleasure as he views, for the first time, a strange bird, or recognizes an old acquaintance in some well-known bird of his own dear island, amidst scenery which few—and certainly no naturalist—can contemplate without wonder and awe.

Egyptian Vulture *(Vultur percnopterus)*. Occurs sparingly in this province. I have only seen two or three of these birds, and those alone. I know not whether it is gregarious where it is found in plenty, but here it seems a lover of solitude.

Merlin *(Falco æsalon)*. This beautiful little hawk appears to be rare in this part of Spain: I have only once or twice observed it.

Kestrel *(Falco Tinnunculus)* and the Little Kestrel *(Falco Tinnunculoides)*. Occur in great numbers: the latter is a most interesting little bird to watch. The north front of Gibraltar (where they breed) and the Neutral Ground between the British and Spanish lines, is in early spring swarming with this pretty little hawk, and it is most amusing to watch it hawking for locusts, which, I fancy, form a considerable part of its food: twenty or thirty together may be seen hovering a yard or two from the ground, and then settling to feast upon the locusts, which abound on the neutral ground. This province is most rich in Entomology: as early as the beginning of February the mountain-sides were enlivened by numerous Lepidoptera — Colias Edusa, Papilio Machaon, Gonepteryx Rhamni and Cleopatra, Pieris Daplidice, and many others flitting about in great profusion: the curious (and in Africa, I believe, still sacred) Mantis religiosa occurs also plentifully: a beautiful species of Saturnia is also very abundant.

Common Kite *(Falco milvus)* and Black Kite *(Falco ater)* are both plentiful. I possess one of each of these birds alive, which I brought with me from Seville: the black kite, the landlord of the "Forida Europa" assured me, was taken in the year 1855 from a nest in one of the domes of the cathedral. These birds, in their present domestic state, have a great *penchant* for vegetables and fruit. I have watched them often and often in my kitchen-garden plucking the pods of peas, and eating the contents: a bed of radishes also (which I was at a loss to conceive what had demolished) I one morning found occupied by my two pets, eagerly devouring them: they could not have been driven to it by hunger, as they were well supplied with birds and young rabbits. Since the figs and peaches have been ripe they have indulged most freely in their taste for fruit, nothing pleasing them better than a fig. I consider the fact of these birds feeding on vegetable matter worthy of note: other and far better ornithologists than myself will probably know whether similar instances are on record.

The Lordly Peregrine *(Falco peregrinus)* and the Marsh Harrier *(F. rufus)* are both very common. When out snipe-shooting I have always seen numbers of the latter hawking, beating their ground most systematically along the banks of the Guadalquiver: they are particularly numerous.

Others of the falcon tribe, according to Don Antonio Machado, in his 'Catalogo de las Aves Observadas in Algunas Provincias de Andalucia,' are commonly met with; among them the hobby, sparrow-hawk, goshawk, buzzard, roughlegged buzzard, &c.

Of Owls I only met with three varieties, though the above authority gives many others; among them the noble eagle owl *(Strix bubo)* I myself obtained, the little owl *(S. passerina)*, S. Scops and Tengmalm's owl *(S. Tengmalmi)*: the two first of these were common. M. Fevier, a French naturalist and a very good ornithologist, living at Tangier, in Africa, where I spent a few profitable hours, informed me that Strix passerina, S. Scops, and S. Tengmalmi were all common in Northern Africa: he had a large and valuable collection of skins, admirably prepared, with which he supplies many museums in Paris and other parts of France.

Raven *(Corvus corax)*. This ill-omened bird breeds on the rock of Gibraltar: every morning, from the beginning of February to the middle of March, I used to see a pair flying over my house, uttering their croaking note.

The Jay *(Garrulus glandarius)*. Occurs plentifully in the cork wood, where I have often seen and heard them, when out with the hounds. The woods and wilds of Andalusia echo to the sound of horn and hound, a pack being kept by the garrison of Gibraltar, which noble sport, two days in the week, formed our chief amusement, and many a good gallop you get with the Calpe hounds,—bringing back to memory many a gallant run over a far different country,—the fair plains of England. The Spaniards gaze on us with no small astonishment, as they behold us galloping most impossible-looking mountain-sides, and firmly believe all Englishmen more or less mad.

The Blue Magpie *(Pica cyanea)* and Common Magpie *(P. caudata)* also occur in this province, though I have never met with the former.

The beautiful Roller *(Coracias garrula)* I once saw, though unfortunately I had no gun with me to make a specimen of him. I was intently fishing with the water-net for Philhydrida, and, on looking up, saw what at first appeared a patch of blue in a bush, but I was quickly undeceived by the beautiful bird leaving me to pursue my study alone, and flying leisurely away. These birds are migratory here, arriving at the beginning of May, and leaving at the end of September or early in October.

The Golden Oriole *(Oriolus galbula)* arrives about the same time as the roller, and with it takes its departure. I have seen these birds once or twice only: I obtained a beautiful male and female from Fevier, of Tangier.

I only obtained one of the Shrikes *(Lanius rufus)*, and saw no others. Don Machado gives L. excubitor, L. meridionalis, L. Collurio and L. minor, as visiting the province: I believe they are all migratory. L. rufus arrived about the end of March, about which time the nightingale arrived in great numbers, enlivening the cork wood with their strains: they must have arrived between the 21st and 29th of March, as I had not observed them previously, and I could not have failed to have done so had they been in the country.

The Hoopoe *(Upupa epops)* arrives in March, and is called the March cock, being exposed for sale in the Gibraltar market.

Bee-eater *(Merops apiaster)*. First and foremost among the birds of Andalusia must rank the gay and lovely bee-eater: it arrives early in April. I had a good opportunity of judging, as I saw large flocks of from twenty to fifty crossing the Straits of Gibraltar from Africa, and shot two specimens as I was standing on the sands. As soon as they were clear of the sea their clear, shrill note was audible, long before the birds themselves were visible: they fly and hawk for flies much after the manner of swallows, uttering incessantly their wild, clear note. On one occasion I stood under the shade of a large cork tree, and watched some twenty of them hawking in a different manner than usual: they were perched on the summit of a large tree, and would fly a little distance, poising themselves on the wing, after the manner of the fly-catchers, taking their food, and again returning to the spot: I obtained as many specimens as I required, and of course shot no more, having a great reluctance to destroy any bird wantonly. In May, when going up the Guadalquiver to Seville, these birds were breeding in hundreds in the sand-banks overhanging the river: it was most interesting to watch them flying in and out of the holes, like sand martins. I should much have enjoyed landing for an hour, and procuring some of their eggs, but of course that was out of the question.

The Crossbill *(Loxia curvirostra)* inhabits this part of Spain. A flock used to frequent my garden, feeding on the fruit of the Arbor Vitæ: they were exceedingly tame, and I had a good opportunity of watching their habits. As it was against garrison orders to shoot on the rock, I had recourse to a small rat-trap to procure a specimen, carefully concealing it in the foliage, and placing a cone of the Arbor Vitæ upon it: I had the satisfaction to be rewarded for my trouble with a fine female specimen: I never, however, caught another, although the birds returned to their food, and were constantly in the tree.

The Common Robin (*Turdus migratorius*) [? Ed.] spends the winter in Andalusia. I had two or three in my garden all the winter months, but on the approach of hot weather they disappeared, and I never saw one anywhere after the end of March. I was informed by a friend at Gibraltar that at Malta the robin arrives regularly for the winter months in great numbers, but migrates again on the approach of the hot weather, which dries and parches everything, so that they would be unable easily to obtain their food. During the winter the climate affords them abundant sustenance.

In the same manner the Kingfisher winters in this province, but I never saw it during the summer, although I have frequently passed its winter haunts.

I could add many more birds to my list; perhaps at some future date, should this prove acceptable, I may venture to send another communication.

C. W. Watkins.

October, 1856.

Notes on Birds in Germany. By Henry Smurthwaite, Esq.

Having lately passed some time in a district of Germany, where I had many opportunities of observing the habits of some rather rare British birds, a short notice of the most interesting of these may perhaps prove acceptable to the numerous readers of the 'Zoologist.'

The town in which I have been residing is Reuss Greiz, the capital of a small principality on the borders of Saxony, and during my stay there I have daily seen great numbers of the white wagtail (*Motacilla alba*). These pretty and graceful birds were to be seen at all hours in the immediate vicinity of the town, and during the last month (September) in surprising numbers. A small stream of muddy water ran through the principal streets of Greiz, and emptied itself into the river Elster; at the junction of the two several pairs were always to be seen flitting to and fro, and occasionally stopping to take a bath in the far from inviting-looking water. I frequently also saw them perched on the roofs of many of the houses, and the church-leads were always occupied by four or five, who appeared to live in the greatest harmony with the sparrows and martins. I invariably, however, observed them in greatest abundance in the large open fields of barley (the chief haunt also of the ortolan bunting), at a considerable distance from any water. From their movements and cries I am convinced that many of them had nests with young (the time of which I speak was the second week in August) in these very fields, and as the ground was a dead level, the nests must have been placed, like those of the larks and buntings, under the shelter of some clod of earth, &c. Now it is well known that our own Ray's wagtail will frequently build in a similar situation, and possibly the pied wagtail also; but this peculiarity has never, to my knowledge, been previously remarked in M. alba. I questioned the country people on this point, and their evidence concurred with the notion I had formed; in fact, I feel convinced that, were proper search made in the breeding-season, more nests of this species would be found in the open fields than in any other locality. I had not time to make a protracted search for the nests, and I regretted this the more because the discovery even of a single one in such a locality would have gone far to prove that it was the situation most frequently chosen; and although I am satisfied, beyond a shadow of doubt, that the nests did exist, yet, as they remained undiscovered, the chain of evidence rests incomplete. I am in great hope, however, that as British naturalists who devote themselves especially to the study of Oology are becoming annually more numerous and persevering in their Continental investigations, this point and many others connected with the Motacillidæ will be soon satisfactorily explained. No family of birds demand more attention than the wagtails: I feel sure that our five British species are by no means properly understood, and if the labours of future ornithologists were to bring to light the fact of our possessing more species than is at present supposed, it would be the realization of an idea which I have formed since I have had so many opportunities of observing these beautiful and interesting birds in Germany.

The Pied Wagtail also occurred in the neighbourhood of Griez, but, compared with M. alba, was rare, and appeared confined to a particular locality: the last-named species is doubtless double-brooded, for early in August there were plenty of young birds able to take care of themselves.

I once or twice saw the Grayheaded Wagtail (*M. flava*), but it was decidedly scarce; the country, in fact, was not well suited to its habits, as there was a total absence of marshy ground, in which it seems particularly to delight.

Many naturalists have spoken of the difficulty of "beating up" the feathered population of the Continental states. I think it is Mr. Wolley who mentions this with regard to Lapland: many also have remarked the great scarcity of small birds in Germany: to a certain extent this is doubtless true, but at the same time great caution should be used in stating positively that certain species are rare or unknown in particular districts: for more than a month after my arrival in Greiz I sought the black redstart (*Sylvia tithys*) in vain, and it was not until put on the right scent by a gentleman in the town that I discovered how abundant it really was.

Every one who has travelled through the central part of Germany must have observed in each field a small wooden building, somewhat loosely constructed, and answering the double purpose of barn and stable. These are the great haunts of the black redstart, and in the breeding-season scarcely one of them is without its pair of birds, and during the whole year they affect more or less the same situation. On discovering this fact I had no difficulty in seeing as many specimens as I desired, and in the course of five minutes I have frequently observed ten or twelve of this attractive species, chiefly females or young males of the year, but the old males were also often to be seen, and a handsomer bird it would be difficult to find. They remain for hours together perched on some particular point of the roof of these barns, occasionally leaving their station for a few moments in pursuit of insects, but invariably returning to the same spot. They were, however, somewhat shy, and the instant they became conscious of the presence of man either entered the building through one of the numerous crevices, or flew to a distant part of the field. They are also double-brooded, and, as my friend Mr. Müller informed me, frequently lay in the first nest eight eggs, but in the second never more than five. The common redstart I also observed now and then, but it was not abundant: by the country people it is called "wood redstart," and S. Tithys "house redstart," the last-named sharing with the swallow and golden crest the favour of the kindly disposed and fanciful peasantry.

Another very interesting bird, which I often watched with great pleasure, was the crested tit (*Parus cristatus*). They were always to be seen amidst the branches of a small plantation of fir and birch trees about half a mile from Greiz, usually in company with the long-tailed tit and golden-crested regulus. It was a species well known to the country people, and, as I found on inquiry, existed in great numbers in all the surrounding woods, preferring, however, those composed of fir trees. Like its congeners, it was active and sprightly in the extreme, but by no means shared their familiarity, as I never succeeded in approaching nearer to it than ten or a dozen yards. In this district it remains the whole year. The nests, however, are but seldom found.

HENRY SMURTHWAITE.

October 5, 1856.

Occurrence of the Honey Buzzard near Penzance.—A third example of the honey buzzard has been captured, during the last week, in Cornwall, and within a couple of miles westward of Penzance, in a wooded valley. It has altogether the appearance of being a bird of the year, from the dark colour of the iris, the shortness of the tail-feathers, the shorter and straighter character of the claws than any I have yet seen, and from the yellow colour pervading the base of the lower mandible, and the skin forming the boundaries of the gape. The whole of the head, cheeks (including the small, closely-set feathers between the beak and eye), and the upper plumage is of a uniform dark chocolate-brown; this colour is a little broken on the nape of the neck. The under parts from the throat to the vent is bright rufous-brown, lighter in tone than the upper parts, each feather having a very well-defined dark line down the shaft; but there is not the slightest appearance of transverse bars, spots, or broken patches of white on the breast or belly; the throat is rather lighter than the rest, and here the centre dark line is of course more distinct and defined. The colour of the iris is reddish brown, giving indications of becoming yellow at a more mature age. Legs bright yellow. The three distinct straight bars, at intervals of about three inches, across the *under* surface of the tail seems to be another character peculiar to this species, which neither the common buzzard nor the rough-legged buzzard possess. These bars, being very well developed in the present specimen, as well as in those of a maturer age that I have examined, may be regarded as a permanent character of the genus Pernis. This bird was observed for some days in the valley, and was marked at last to the top of a tree adjoining an orchard. From this spot the bird made a sudden stoop at a cat on a bank. The conflict continued vigorously for a few minutes, the honey buzzard attacking the cat in the style of a fighting cock, and the cat parrying off each assault with her paws, and with a tail and crest looking as formidable as in any caterwauling encounter on a house-top.—*Edward Hearle Rodd; Penzance, October* 20, 1856.

Occurrence of the Rose-coloured Pastor and Hoopoe in Essex.—The rose-coloured pastor was shot at Street-hall, in Essex, about the middle of the month of September last. It is a very fine specimen, with a good crest, and the beautiful rose-colour on the back, &c., very pure. The hoopoe was shot at Ashdon, near Saffron Walden, about a week afterwards. Both these birds are at Mr. Travis's bird-stuffer, Saffron

Walden, Essex. I beg also to notice a very singular variety of the skylark's eggs, which I have in my collection. They are quite white, with the exception of one or two dots and streaks of a light brown colour. A skylark's nest was found here last spring, containing eggs, the ground-colour of which was much lighter than usual. This nest was taken. I have no doubt that the same bird made another nest, and laid these eggs, as they were found near the same place as the former, and not long afterwards.—*Edward J. Tuck; Wallington, near Baldock, Herts, October* 11, 1856.

Occurrence of the Rose-coloured Pastor, Merlin and Peregrine in Norfolk.—A fine old male of the rose pastor, with its rich salmon tinge and black crest, was killed on the 9th inst. at Hunstanton; and a very beautiful specimen of the adult merlin, a species of hawk extremely rare in this district, was obtained in the county about the same time. A female peregrine, in immature plumage, was shot in a wood at Sprowston, near Norwich, this week. A pair had been seen in the neighbourhood for some days previously; but the other, probably the male bird, has not yet been procured.—*H. Stevenson; Norwich, October* 15, 1856.

Scarcity of the Song Thrush.—Mr. Edward, of Banff, referring to the great and almost total destruction of the song thrush in the North, remarks (Zool. 5261), "The other winter it suffered severely here, scarcely one being left." Although perhaps a somewhat less enthusiastic admirer of the mavis than Mr. Edward, who gives it the preference to and ranks it above the blackcap, I can fully sympathize with him in deploring the loss of so many of our sweetest native songsters; and can, moreover, in corroboration of his statement of what has occurred in the North, give a few extracts from my note-book of what fell under my own observation in the South during the severe winter alluded to:—"February 2, 1855.—The frost still continues with unabated severity, and, the ground being covered with snow, all the smaller kinds of birds have in consequence suffered much, not excepting the house sparrow, one of the hardiest of the feathered tribe. As for the thrushes, they look pinched beyond measure, and seem to be in a complete state of collapse. One solitary, wretched, half-starved bird I observed most perseveringly employed in endeavouring to break a snail-shell, raising it on high and then striking it on the ground, or rather trying to do so, for its strokes proved powerless and futile, the intensity of the cold having not only quite paralyzed its strength, but rendered it helpless and half demented; for so tenacious was it of its fancied prize (for it proved to be nothing more nor less than an empty shell) that in slowly flitting away it would not forsake or relinquish the worthless object, to which it clung as if its existence was staked, or depended on the breaking of this shell." "February 15.—The weather is more intensely severe than ever; and should the snow-storm continue it is much to be feared that most of the thrushes, as well as robins, must inevitably perish of cold or starvation, to say nothing of the numbers that are falling daily under the murderous fire of the men and boys (now thrown out of work, who pursue and persecute them morning, noon and night." "March 27, —The weather is still so cold, with occasional frosts at night, that, although the season is so far advanced, I do not believe many birds have yet commenced the construction of their nests; for at four o'clock this afternoon I observed a number of blackbirds and a few thrushes feeding together in a meadow in this neighbourhood, a proof of the extreme severity of the spring, as in ordinary seasons they would not only have been paired, but busy with their nests, or even sitting on their eggs or rearing their broods; for I have heard of a thrush's nest being found at Bonchurch, with four eggs in, as early as the 28th of February; but this year, with the exception of ivy, they would find little or no foliage to screen their nests from observation or shelter them from the storm."—*Henry W. Hadfield; Ventnor, Isle of Wight, October* 4, 1856.

A young Spoonbill shot at Shoreham.—A young male specimen of the white spoonbill (*Platalea Leucorodia*) was shot at Shoreham, Sussex, near the railway bridge over the Adur, on the 5th of last September. It appears to be a very young bird, the length of the bill being only 4¼ inches, while that of an adult bird is 8½ inches. The occipital feathers are very short, there being no crest; and there are none of the buff markings about the breast and neck which are seen in the adult bird; there is also no convolution of the trachea within the keel of the sternum. Its gizzard was filled with shrimps and the roots of marine plants.—*Arthur Woodroffe; 125, Eastern Road, Brighton, October* 13, 1856.

Pelican found dead on the Coast of Durham.—On the 25th of last month a lady picked up, among some rocks on the shore at Castle Eden, a mutilated adult specimen of this bird, in full plumage. The carcase, which is now in my possession, had been much eaten, and had apparently been tossing about for about a fortnight, and the head was altogether destroyed; but enough remained to show it had been a very fine bird. Whether it had wandered alone and perished at sea, or made its escape from some passing vessel, I leave to others to conjecture. I am not aware that this bird has ever been taken in any part of Northern Europe.—*H. B. Tristram; Castle Eden, Durham, September* 10, 1856.

Occurrence of the Eared Grebe in Flintshire.—On the 27th of September a young male of this bird was shot at Bagillt, in Flintshire. I observed it swimming in a pool by the side of the railway, during a perfect hurricane of wind and rain. It did not attempt to fly away even when two trains passed it, having probably had a rough night of it. Not having a gun at hand, I sent a man after it who had, and he very soon brought it to me. It has a decided, though slight, upward curve in the beak which marks it as the above species. I should mention that the railway here runs along the shore of the estuary of the Dee.—*Alfred O. Walker; Chester, October* 22, 1856.

Do Cuckoos take the Eggs of other Birds as Food?

By Wm. H. Slaney, Esq.

The great quantity of these welcome birds which frequent this place and breed here during the early summer months, and the observations I have been enabled to make on them, induce me to submit the above question for the consideration of your numerous correspondents, with the following remarks on the subject.

In many counties it is become almost proverbial that cuckoos *suck* and destroy other birds' eggs, although there appears no good reason for imputing this fault to the pretty cuckoo, at least as far as I have had opportunities of observing their habits. In Lancashire this propensity is firmly believed in by the lower class almost universally;

and the motive adduced is, that it is to strengthen and clear the voice of the cuckoo, and enable it to sing the better; but this effect may be fairly doubted, as it is seldom that even our own most talented songstresses resort to this means of adding to the sweetness of their song, though lozenges and other stronger stimulants may be sometimes adopted by them for that purpose.

That cuckoos do cause the destruction of the eggs of many of the smaller birds there can be no doubt, but not for the above-mentioned reason, nor as food. When the cuckoo's egg is found together with other eggs, it is a well-known fact that no sooner is the former hatched than the young cuckoo takes upon itself, as its first labour in life, to throw overboard those unhatched eggs of the poor bird which brought it into existence; and if there chance to be any foster-brothers or sisters hatched at the same time out they must go, and are ejected likewise, as soon as the young cuckoo is strong enough to do so, in order that the young intruder may have the whole nest to itself, and the incessant attention of the two old birds to feed and provide for it alone, a labour and difficulty they are scarcely able to accomplish; and their own young ones, or the eggs, are to be found dead or broken beneath the nest, till removed by vermin or some other means. Thus may the cuckoo be considered as a destroyer of other birds' eggs. But is there any authenticated account of cuckoos *sucking* or *swallowing* the eggs? Numbers of wood pigeons' broken eggs and egg-shells are constantly to be found on the ground in places much frequented by those birds, and, being quite white, are easily seen. Gamekeepers and others often impute this to the poor cuckoo having sucked them; but those eggs, in most instances, upon being examined, will be found to have been duly hatched, or by accident to have been blown or to have fallen out of the very shallow and inartificial nest of the wood pigeon, consisting of only a few twigs or bits of stick placed together, and with very little or no depth to it. It is also well known that the cuckoo in general, except the young ones of the season, have left this country by the beginning of July, and the others a short time later; and that the old birds arrive here about the middle of April, according to the nature of the weather and season. Now, before and after these two periods the eggs of the wood pigeon, which breeds quite early in the spring, as well as in the summer and autumn months, are constantly found emptied of their contents, and laying near the nest, at a time when there are no cuckoos left to molest them; and when a wood pigeon's or other bird's nest has been robbed it is ten times out of twelve a jackdaw, magpie, crow, or jay that has done it, who are ever on the look-out for that purpose, and are most dexterous at such work, and may easily be caught in traps baited with an egg.

Another reason for supposing cuckoos are not addicted to plundering other birds' nests of their eggs for food, though so often accused of it, is that eggs unquestionably are not their ***natural*** food, but grubs and insects, especially caterpillars and winged beetles; neither are house-ducks' and the larger kinds of birds' nests often supposed to be attacked by cuckoos. That the cuckoo always lays its egg in an insect-feeding bird's-nest, in order that the young one may obtain its proper and natural kind of food, is a strong reason in support of the old ones not changing their diet in after days. It is true that Shakespeare mentions,

* * * *

> "As that ungentle gull, the cuckoo's bird,
> Useth the *sparrow:* did oppress our nest."

And Dr. Johnson, in a note to the above quotation, states that "the cuckoo's chicken, who, being hatched and fed by the sparrow in whose nest the cuckoo's egg was laid, grows in time able to devour its nurse." Now, the sparrow can hardly be called an exclusively insect-feeding bird, if, as is probable, the common house sparrow is alluded to by Shakespeare, but in whose nest a cuckoo's egg has, I believe, never yet been discovered, though it is found often in that of the hedgesparrow, which is quite a different kind of bird from the other; and although, in an elaborate article in a recently published magazine, much pains are taken to prove Shakespeare was a good naturalist, or rather a correct observer of nature, as to birds, insects, &c., and their habits, it is probable that neither he nor his annotator was either of them aware of the instinct above alluded to, of the cuckoo's selection of the nest of an insect-feeding bird in which to place its egg, with a view to the proper food being provided for its deserted young one, which is left to strangers to its nature to bring up, but whose food is similar to that of the cuckoo's, and known to the latter to be so. Shakespeare did not know this when alluding to the sparrow, any more than did Mr. Tennyson of the habits of the swallow, when he mentions "swallows hunting the bee," which, as Mr. Broderip remarks, they never do. Why, then, should so very different a kind of sustenance as other birds' eggs, and with so much difficulty in general to be procured, be selected by cuckoos, when their more natural food can be easily obtained by them? and because eggs and egg-shells are more frequently found beneath the nests of other birds in those months when the cuckoo is sojourning with us, that is no good reason for charging it so universally, as is the case, with their destruction; for, that being the period when all kinds of birds are laying, of course many more accidents to these occur, and a much more constant destruction of eggs takes place by other means. I cannot, therefore, think there are any just grounds for accusing the poor cuckoo of this felonious propensity, either for the purpose of clearing its voice or as a matter of food; and I should much wish to be able by these suggestions to relieve so pretty and universally welcomed a bird from this often-repeated, and, as I believe, unfounded and opprobrious accusation, unless any of the numerous contributors to the 'Zoologist' can bring satisfactory evidence to prove the contrary is really the fact.

Wm. H. Slaney.

Hatton Hall,
October 14, 1856.

Rissoa lactea in Jersey and the Isle of Herm.—Rissoa lactea owed its insertion in the 'British Mollusca' to the discovery by Mr. Hanley of four living examples, "under large masses of stone at St. Helier's, Jersey, taken by wading into pools at very low water." Any conchologist visiting Jersey will meet with the species dead, but in good condition, by examining carefully the sides of the raised bank which connects the castle with the shore, but which is covered at high water. The Rissoa, however, would seem not to be confined to Jersey, as I have lately taken a single specimen from among Herm shell-sand.—*Alfred Merle Norman; Kibworth, September* 3, 1856.

Limax Gagates in Scotland and Guernsey.—I have already recorded the occurrence of this recently distinguished British slug in two or three localities (Zool. 4048, 4284). I have now the pleasure of stating that I have found it in Scotland and the Channel Isles; I believe for the first time in both places. In the summer of 1854 I took a specimen in the grounds of the College, Isle of Cumbrae, in the Clyde; and last month I met with a specimen in the parish of St. Martin's, Guernsey. I may mention that all the specimens which have occurred to me have been taken on grass or hedge-banks after very heavy storms of rain.—*Id.*

Octopus vulgaris at Herm.—This fine cuttle-fish is by no means rare at Herm, where it is taken under stones and among weeds at low water.—*Id.*

Eurylepta vittata at Herm.—I met with this remarkable Planarian in some numbers, on the under side of the granite rocks, at the Galeomma ground, in the Isle of Herm. If it were not for the absence of the branchial plumes, it reminds us not a little of a Nudibranch Molluscan.—*Alfred Merle Norman; Kibworth, September* 3, 1856.

Duration of Pupa-state in Acherontia Atropos.—In the last 'Intelligencer' information is requested relative to the pupa-state of Acherontia Atropos. About eight years ago a friend brought me a full-grown larva, which was dug up in a garden near the barracks, and was so large that I was afraid to put it with any other insects, so I placed it in an old cigar-box, filled with leaf-mould and covered with a piece of net: it went down and then came up to the top of the mould, and then went down a second time. It went down on the 28th of July, and came out on the 17th of September, which was fifty-two days. I had the good fortune to be standing by when it came out, or it might have got damaged if puss had got at it, she having as great a fancy for catching moths as her master, though for quite a different purpose. Some time after it had changed to the pupa I was curious enough to examine its whereabouts: I cleared the mould away until I came to a portion which was hard and of an oval shape, of about 3½ inches in length by 2½ in width: I did not like to continue the examination any longer, so I covered it up, but after it came out I examined it, and found it composed of mould kneaded into a sort of paste, which the larva had mixed with gum; I could find very little silk mixed up with it, but I could see it was proof against moisture. I had another larva brought me the same season, but it was too late, and it died in the winter after going into pupa: I think they do not stand the winter well; the shell of the pupa is so thin that the least puncture will prove fatal. I had a very fine pupa brought to me by one of our men, who was poking with a stick at the side of an old gravel-pit: it changed in the sand where the water came quite close to it, but it either got a squeeze, or was otherwise injured with the stick, for it died in two or three days.—*James M'Laren; Worley Barracks, October* 20, 1856.

Larva of Stauropus Fagi on the South Downs of Sussex.—Toward the end of last September, my friend and neighbour Dr. Smith, when walking up the village, observed on the path a caterpillar, the peculiar aspect of which attracting his attention, he carried it home, and, on referring to Knight's 'Pictorial Museum of Animated Nature,' he recognised it from the figure of Stauropus Fagi. The creature, on being supplied with some beech-leaves, immediately enclosed itself between a couple of them, apparently being full-fed, and having been, when found, in the act of travelling from the place where it had been produced in search of a fit spot for its next transformation. I doubt whether there is more than one beech tree in the garden where this specimen was probably bred; there may be others in the village, but they cannot be numerous, and *all, without an exception*, must be very small. The nearest plantation wherein other beech trees may exist must be distant more than half a mile in a direct line, and there is a much longer interval between any situation where a few such trees may stand and any extensive collection of them, such as the park and planted woods of the Earl of Chichester, at Stanmer. As the insect is stated to be rare in England, its occurrence in such a very unlikely district as this part of the South Downs of Sussex may be interesting to entomologists. Since Dr. Smith possesses no information how the chrysalis should be treated to ensure its preservation in life,—at what period it may be expected to change, and what is the figure of the imago,—he will be thankful for intelligence on those particulars in a future number of the 'Zoologist.'—*Arthur Hussey; Rottingdean, October* 21, 1856.

[The pupæ of Stauropus Fagi do not require any particular care: the larvæ usually spin two or three leaves together, and, when found in this state, Mr. Doubleday informs me he usually cuts off the nest thus formed, and pins it up to the side of the breeding-cage. In the woods these nests, in all probability, fall with the falling leaves, and remain throughout the winter on the ground: this will account for the imago being found adhering to the trunks of trees.—*Edward Newman.*]

Capture of Phlogophora empyrea, Agrotis saucia and Phibalapteryx gemmaria at Brighton.—Please to record in your November number the capture of Phlogophora empyrea, which was taken a few days since not far from Brighton. Mr. Howse, of St. James Street, and myself, also took at the same time three specimens of Agrotis saucia—another rare insect in this locality; also the same evening, by Mr. Howse, one male specimen of Phibalapteryx gemmaria, which is in Mr. A. F. Sheppard's collection. Although so rare now, I have no doubt that Phlogophora empyrea will turn up more plentiful, and I would caution tyros in Entomology not to give too long prices for an insect that will most likely be common after another year or two, this being the second locality where it has been taken, and many miles apart.—*T. Thorncroft; 87, North Lane, Brighton, October* 14, 1856.

Capture of Phlogophora empyrea near Lewes, &c.—I have received accounts of the capture of no less than thirty-six other specimens of Phlogophora empyrea near Lewes, and also near Shoreham: all were taken by sugaring in marshy ground. Four beautiful specimens of Agrotis saucia have been taken in the same localities, and by the same means.—*Edward Newman.*

Mr. Gregson's Pœcilochroma stabilana a variety of P. sordidana,—Mr. Stephens' P. stabilana equals P. Solandriana.—At p. 124 of the 'Entomologist's Weekly Intelligencer,' Mr. Gregson states of Pœcilochroma stabilana, *Steph.*, "This very variable species I am now breeding from the Myrica Gale." I have just been shown some specimens received from Mr. Gregson of what he calls stabilana, and as they are merely ordinary varieties of P. sordidana I deem it only right to let this fact be known, as it seems an insult to the memory of our lamented friend to state that he had named a "very variable" insect stabilana. I may add that the insects named stabilana by Stephens, if not a distinct species, are very large plain specimens of Solandriana. I think that entomologists ought to be a little more careful in making statements, especially when they are likely to reflect on those who are no longer living to refute them.—*Edwin Shepherd; 176, Fleet Street.*

Capture of Sphinctus serotinus of Gravenhoorst.—I had the good fortune to beat a single specimen of this, one of the very rarest of our Ichneumonidæ, out of an oak tree in Wickham Wood, about the middle of the present month. Mr. Smith, of the British Museum, has most obligingly furnished me with the name.—*Thomas Ingall; 16, Park Road, Brixton, September* 30, 1856.

NOTICES OF NEW BOOKS.

'Annals and Magazine of Natural History,' Nos. 103—106, dated July —October, 1856. Price of No. 104, 5*s.*, of the others 2*s.* 6*d.* each. London: Taylor and Francis, Red Lion Court, Fleet Street.

The contents of No. 103 are as follow:—

'Monograph of the Genus Catops.' By Andrew Murray.

'On a second New Species of Sphærium from the Paddington Canal.' By Dr. J. E. Gray, F.R.S., &c.

'On the Habits of the Orang-Utan of Borneo.' By A. R. Wallace.

'Polyzoa collected by Mr. M'Andrew on the Coasts of Norway and Finmark in 1856.' By George Busk, F.R.S., F.L.S.

'On the Evils of increasing Synonyms.' By S. P. Woodward, F.G.S.

'Observations on the External Characters and Internal Anatomy of a Bitentaculate Slug, found at the Island of Aneiteum, New Hebrides.' By John Denis Macdonald, R.N.

'On Vegetable Cell-formation.' By Prof. Arthur Henfrey, F.R.S.

'On the Method of Palæontology.' By Thomas H. Huxley, F.R.S.

Bibliographical Notices:—'The Ferns of Great Britain;' illustrated by J. E. Sowerby; the descriptions by C. Johnson. 'The Ferns of Great Britain and their Allies;' by Anne Pratt. 'The Fern Allies;' illustrated by J. E. Sowerby; descriptions by C. Johnson. 'British Poisonous Plants;' by C. Johnson.

Proceedings of Learned Societies:—Zoological; Royal Institution of Great Britain; Botanical of Edinburgh.

Miscellaneous:—Note on Edwardsia vestita, *Forbes;* by P. H. Gosse. On Cyclas lacustris, *Draparnaud;* by J. Gwyn Jeffreys. Occurrence of Clausilia Mortilleti in Kent; by W. H. Benson. On the Siliceous Sporangial Sheath of the Diatomaceæ; by J. W. Griffith, M.D. Travels in Central America; by MM. Scherzer and Wagner. On the Non-existence of Polarizing Silica in the Organic Kingdoms; by Prof. J. W. Bailey.

The contents of No. 104 are as follow:—

'On the Development and Propagation of Sphæroplea annulina.' By Dr. Ferdinand Cohn. [Extracted from the Monatsberight of the Berlin Academy for May, 1855.]

'New Terrestrial Shells from Ceylon, with a General List of the Species inhabiting that Island.' By W. H. Benson, Esq.

'Notice of a curious Metamorphosis in a Polype-like Animal.' By C. W. Peach.

'Brief Outline of the Anatomy of the Genus Atlas, *Lesueur*.' By John Denis Macdonald, R.N.

'On the Development of Arenicola piscatorum, with Remarks upon that of other Branchiferous Annelides.' By Dr. Max Schultze. [Extracted from the Abhandl. der Naturforsch. Gesellsch. in Halle, vol. iv.]

'Notes on the Fresh-water Infusoria of the Island of Bombay.' No. 1. Organization. By H. J. Carter, Esq.

'Monograph of the Genus Catops (*continued*). By Andrew Murray.

'On a new British Species of Skenea.' By W. Webster, Esq.

'Description of a new Species of Dolphin, from the upper parts of the River Amazon.' By Dr. J. E. Gray, F.R.S., &c.

Bibliographical Notices:—'Manual of Geology, Practical and Theoretical;' by John Phillips, M.A., F.R.S., &c. 'Tenby: a Seaside Holiday;' by P. H. Gosse. 'Manual of British Botany; containing the Flowering Plants and Ferns, arranged according to the Natural Orders;' by Charles Cardale Babington, M.A., F.R.S., F.L.S., &c. (fourth edition). 'Trees and their Nature; or the Bud and its Attributes;' by Alex. Harvey, A.M., M.D., &c.

Proceedings of Societies:—Zoological; Botanical of Edinburgh.

Miscellaneous:—On the probable Origin of the Organized Beings now living in the Azores, Madeira and the Canaries; by M. Oswald Heer [extracted from the Bibliothèque Universelle de Genève, April, 1856, p. 327]. Note on Clausilia plicatula and C. Mortilleti; by J. Gwyn Jeffreys, Esq., F.R.S. Note on Lernæa branchialis; by W. P. Cocks. On two new Species of Birds from Santa Fé di Bogota; by Philip Lutley Sclater, M.A., F.L.S. On the British Diastylidæ; by C. Spence Bate, F.L.S. Note on Helix cantiana, *Mont.;* by W. Lonsdale, F.G.S. Description of a Fossil Cranium of the Musk Buffalo from the Gravel at Maidenhead, Berks; by Prof. Owen, F.R.S. A Last Word on Scissurella; by J. Gwyn Jeffreys, Esq. F.R.S. New Mode of cleaning Diatomaceous Deposits; by Prof. J. W. Bailey. New Method of disintegrating Masses of Fossil Diatomaceæ; by Prof. J. W. Bailey.

The contents of No. 105 are as under:—

'Attempt at a Natural Arrangement of Birds.' By Alfred R. Wallace, Esq.

'Recent Discoveries in Vegetable Embryogeny.' By Arthur Henfrey, Esq., F.R.S.

'On Edwardsia carnea, a new British Zoophyte.' By Philip H. Gosse, F.R.S.

'Notes on the Fresh-water Infusoria of the Island of Bombay.' No. 1. Organization. By H. J. Carter.

'Descriptions of one Indian and nine Burmese Helices; and Notes on two Burmese Cyclostomacea.' By W. H. Benson, Esq.

'On an Abnormality in the Flowers of Salix Andersoniana.' By John Lowe, Esq.

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'Cardium exiguum: its Siphons and its Byssus.' By Philip H. Gosse, F.R.S.

To Entomologists.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on Tuesday, November 11, at One o'clock precisely, the COLLECTIONS of BRITISH and FOREIGN INSECTS of C. LAMB, Esq., mostly in the finest possible condition, together with the Cabinets in which they are contained.

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MR. J. C. STEVENS begs to announce that he has received Instructions from the Executors to SELL BY AUCTION, at his Great Room, 38, King Street, Covent Garden, on Thursday, November 13, and Two following Days, at One o'clock precicely, the Valuable and Interesting LIBRARY of the late WILLIAM YARRELL, Esq., F.L.S., V.P.Z.S., &c. &c., containing most of the esteemed works in the various branches of Natural History, Sporting, &c., and many Standard Works in General Literature; a fine Water-colour DRAWING by ADRON PENLEY, and other Drawings, Prints, Pictures, &c.

Catalogues will be ready one week before the Sale, and may be had of Mr. J. C. STEVENS, 38, King Street, Covent Garden.

⁂ The Collections of Birds, Eggs, Fishes, and other objects of Natural History, will be sold early in December.

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MR. J. C. STEVENS is instructed to offer for Sale by Auction, early in the ensuing Spring, a COLLECTION of extremely RARE EGGS made in LAPLAND during the past Summer for J. WOLLEY, Esq. Further particulars will be duly announced.

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To Entomologists.

MR. FOXCROFT begs to return his sincere thanks to the Trustees of the British Museum, the Nobility, Gentry and Clergy, and also particularly to the Members of the Entomological Society, for the patronage he has received for a number of years, and takes the liberty of informing them and others that he intends making another JOURNEY INTO SCOTLAND for the purpose of discovering what INSECTS he can collect in the neighbourhoods of BALMORAL and CASTLETOWN in the Summer of 1857, between the 1st of May and the end of September; and to enable him to carry out this plan he wishes to raise a sufficient sum by Subscriptions of £1 3*s*. Each Subscriber to receive two specimens of all kinds of LEPIDOPTERA that may be captured during the Season. The Subscription for COLEOPTERA will be £1 3*s*., to include two specimens of every Species that may be captured during the Season. The whole of the Insects to be shared on the 1st of October, and sent to the Subscribers. Subscribers are respectfully requested to send Subscriptions between Thursday, the 20th of November, 1856, and the 20th of March, 1857. Post-Office Orders to be made payable at 210, Oxford Street, London, addressed to Mr. FOXCROFT, 3, Union Yard, Oxford Street, London.

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